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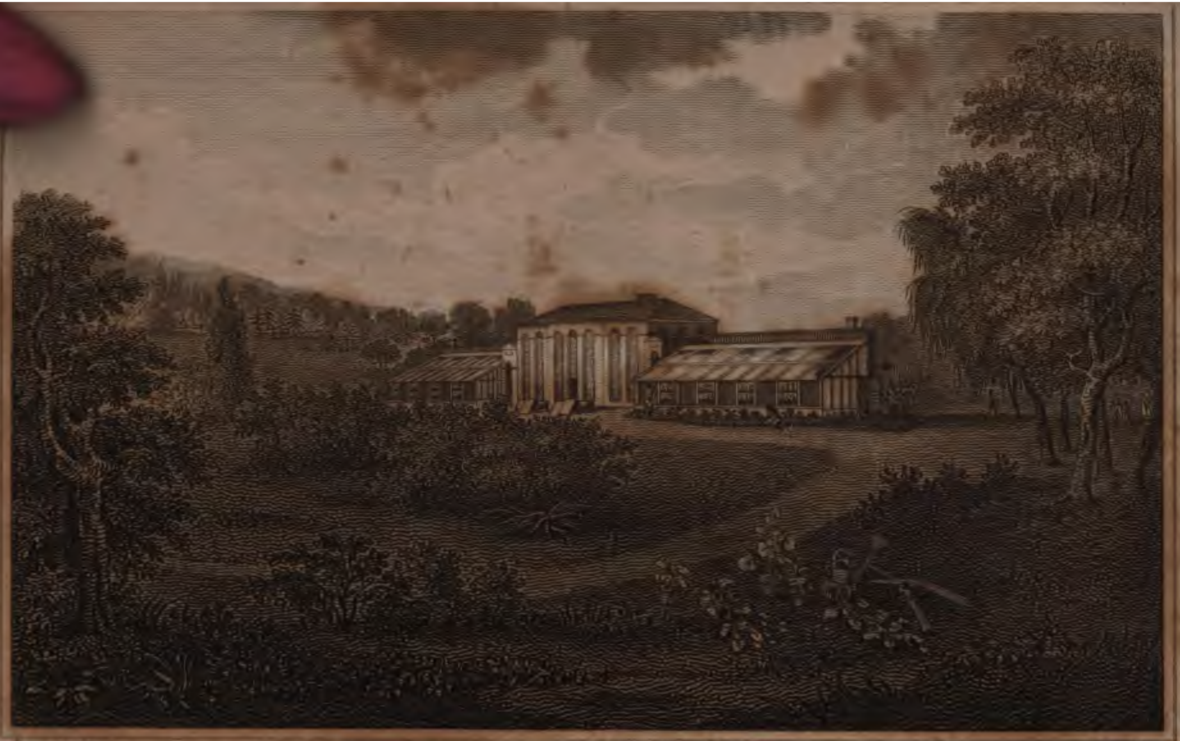

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View of the BOTANIC GARDEN of the STATE of NEW-YORK.
established in 1801.

Thos. Hubbar
from th
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THE

AMERICAN MEDICAL AND PHILOSOPHICAL REGISTER;

OR,

ANNALS

OF

MEDICINE, NATURAL HISTORY, AGRICULTURE,
AND THE ARTS.

CONDUCTED BY
DAVID HOSACK, M. D. F. L. S.
Professor of the Theory and Practice of Physic and Clinical Medicine in the University
of the State of New-York, &c.
AND
JOHN W. FRANCIS, M. D.
Professor of Materia Medica in the University of the State of
New-York, &c.

VOLUME II.

NEW-YORK:
PUBLISHED FOR THE PROPRIETORS,
BY C. S. VAN WINKLE.
....
1814.

UNIV. OF MICH.

Dr. J. R. Williams
[illegible]
8-2-1926

TO THE HONOURABLE

BROCKHOLST LIVINGSTON, ESQ.

One of the Associate Judges of the Supreme Court
of the United States, &c. &c.

SIR,

From the commencement of this Work, it has been the intention of the Editors, to devote the dedicatory page of each volume, as a tribute to *virtue*, *talents*, and *public services*. In all these respects, you have strong claims upon their notice. But added to these, the numerous and disinterested acts of private friendship and kindness, which you have extended to many of your fellow citizens, and in an especial manner to one of the Editors of this Journal, peculiarly call for this public testimony of their grateful feelings. With every wish that your valuable life may be long continued to this community, as an example of those virtues which elevate and dignify the human character, we are, with great respect and esteem, yours, &c.

THE EDITORS.

PREFACE.

NEARLY two years have elapsed since the plan of the REGISTER was first announced, and pursuing the method proposed in their prospectus, the Editors have now arrived at the close of a second volume. At this stage of their labours, it were equally superfluous to detail the particular objects of the work, or to declare the principles upon which it is conducted. It remains with the public to decide whether they have honourably supported the pretensions with which they commenced, or whether performance has disgracefully lagged behind promise.

It is proper to state, as a peculiarity of this journal, that it is composed exclusively of *original* materials; and it deserves to be recollected that this feature is rarely preserved, even in the best journals of the most learned nations of Europe. The Editors, on this occasion, cannot but express the obligations they are under to their numerous correspondents, without whose aid this character of the work could never have been sustained. Among the number of their contributors, they are proud to enumerate the names of gentlemen eminently distinguished, both at home and abroad, for learning, talents, and professional attainments, and who in thus selecting the Register as the means of giving publicity to their productions, have strengthened the exertions of the Editors, and given the most unequivocal approbation of their undertaking.

Under still more favourable auspices they will regularly commence a third volume. The plan of the work will be strictly adhered to, and the uniformity of the volumes closely preserved. In all that relates to the mechanical part, it shall be executed in a style of superior beauty and elegance, and the whole so disposed as to furnish a much greater quantity of matter in each quarterly number. They have determined upon these improvements, in order to secure the prompt insertion of the communications of their friends; and they are confident that the most parsimonious subscriber will not object to the consequent enhancement of the price, as the work will even then be offered at a much lower consideration than any other of a similar nature now published, either in this or in any other country.

THE EDITORS.

New-York, April 1, 1812.

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THE
AMERICAN
MEDICAL AND PHILOSOPHICAL
REGISTER.

JULY, 1811.

ORIGINAL COMMUNICATIONS.

I.

SKETCH *of the* ELGIN BOTANIC GARDEN, *in the vicinity of the City of New-York.*

(With an engraved view, by Leney.)

THIS institution, the first of the kind established in the United States, is situated about three and a half miles from this city, on the middle road between Bloomingdale and Kingsbridge. The ground, consisting of about twenty acres, was originally purchased of the corporation of this city, in 1801, by Dr. David Hosack, the founder of the establishment. The view from the most elevated part is variegated and extensive, and the soil itself of that diversified nature, as to be particularly adapted to the cultivation of a great variety of vegetable productions.

Immediately after the purchase, the proprietor, at a very considerable expense, had the grounds cleared and put in a state of cultivation, arranged in a manner the best adapted to the different kinds of vegetables, and planted agreeably to the most approved stile of ornamental gardening. A conservatory for the preservation of the more hardy green house plants was also built.

As a primary object of attention in this establishment was to collect and cultivate the native plants of this country, especially such as possess medicinal properties, or are otherwise useful; among others, such gardeners as were practically acquainted with our indigenous productions, were employed to procure them, and by the distinguished liberality of several scientific gentlemen in this country, there were in cultivation at the commencement of 1805 nearly fifteen hundred species of American plants, besides a considerable number of rare and valuable exotics.

In the year 1806, very important additions were made to the collection of plants, from various parts of Europe, as well as from the East and West Indies. A second building for their preservation was also erected, and the foundation of a third laid, which was completed in the following year. In the autumn of the same year, 1806, a catalogue* of the plants, both native and exotic, which had been already collected, and which amounted to nearly two thousand, was published. Since that time the Botanic Garden has been greatly improved. The buildings, which are erected on the most recent plan adopted in institutions of this kind, consist of three large and well constructed houses, exhibiting a front of one hundred and eighty feet. The greater part of the ground is brought in a state of the highest cultivation, and divided into various compartments, calculated for the instruction of the student of botany and medicine, and made subservient to agriculture and the arts. The whole establishment is surrounded by a belt of forest trees and shrubs, and these again are enclosed by a stone wall two and a half feet in thickness and seven feet in height.

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* A Catalogue of Plants contained in the Botanic Garden, at Elgin, in the vicinity of New-York. By David Hosack, M. D. [illegible]fessor of Botany, &c. New-York. Swords. 1806.

As the expense requisite to effect these several purposes far exceeded the calculations the proprietor had originally formed, and being still desirous of perpetuating the institution, he was induced to offer the whole establishment for sale to the state at a fair and equitable valuation. An almost perfect unanimity of opinion prevailing among the gentlemen of the medical profession, relative to the advantages to be derived from an institution of the kind, as necessary to complete a system of medical instruction, and similar sentiments being entertained by many others who felt an interest in the literary reputation of the state, application was made to the legislature, that permanent provision might be obtained, by the purchase of the Botanic Garden by the state. On this occasion memorials from the state medical society, the medical society of the county of New-York, and several other counties in the state, from the corporation of the city, the governors of the New-York hospital, the students attending the medical schools, and from many of the most respectable inhabitants of the city, were presented. The legislature accordingly passed an act, during the session of 1810, for the purchase of the establishment, and placed the same under the direction of the regents of the university. For further information on this subject, the reader is referred to a production, entitled, a " statement of facts relative to the establishment and progress of the Elgin Botanic Garden, and the subsequent disposal of the same to the state of New-York." The founder of the institution has also lately published a second edition, greatly enlarged, of the catalogue of plants cultivated in this establishment, arranged in alphabetical order, and embracing the generic and specific names of Linnæus, the synonyms of various authors, and the popular appellations by which they are known, &c.

Recently the institution has been committed to the superintendance of the trustees of the college of physicians and surgeons of this city, to be by them kept in a state of preservation, and in a condition fit for all medical purposes, and at all times open to the admission of such medical students as may resort thereto for the purpose of acquiring botanical science. It is confidently hoped, that as the improvements of this establishment for nearly ten years, while in the hands of a private individual, have far exceeded the expectations of the most sanguine, that its future progress will be proportionably great under its present governance.

II.

OBSERVATIONS *on the* OIL OF TURPENTINE *in the cure of* TÆNIA. *Extracted from a letter to* DAVID HOSACK, M. D. *by* COLIN CHISHOLM, M. D. F. R. S. &c. &c.

Clifton, November, 1810.

I SHALL detain you at present no further than to say something of the new views of the animal economy, presented to us by the capacity it is proved to possess, of receiving, what was formerly considered almost certain death, large quantity of oil of turpentine with very little inconvenience, and certain effect, in the removal of the disease for which it is administered, tænia. The interesting communications on this subject in the Edinburgh Medical Journal, and other periodical works, you are of course acquainted with; and indeed, the evidence of the safety of oil of turpentine as an anthelmintic is there so clearly stated, and so strong, that no reasonable doubt should have been entertained of it. Notwithstanding this truth, the administration of two ounces of this fluid is so extraordinary a fact, that the mind hesitates in giving belief, until it is satisfied by demonstration. I felt this hesitation; but now I give entire belief, because I have put it to the test of experience. By my desire, a sensible and intelligent apothecary of this place gave the oil of turpentine to a man who had laboured many years under tænia; and had been so distressed that he declared he would expose himself cheerfully to any danger that presented him with the prospect of getting rid of his most troublesome disease. Portions of the worm were frequently discharged as he walked, and, in a word, his situation became insupportable. On the morning of July 28, 1810, Timothy Carroll, servant to the Rev. Mr. Keiley, took one and an half ounce of rectified spirit of turpentine. About an hour after it caused a little vomiting, with great burning and swelling of the abdomen; about an hour and forty minutes it began to purge violently, and brought off an immense number of small pieces of the tænia. The fourth evacuation brought off, in one piece, eight feet two inches; and when the whole operation was completed, and the several parts collected and put together, they amounted to the enormous length of twenty-one yards eight inches. The morning after a full dose of castor oil was given, which operated freely, but nothing extraordinary was discharged. The patient continued for nearly a day after somewhat giddy, and felt, he said, as he should have done after intoxication. No other unpleasant effects took place. Is it not a very singular circumstance, that the anthelmintic power of this medicine should have been hitherto so imperfectly understood ; indeed, I may say, unknown ? Is it not equally singular, that the minds of medical men should be till of late so much under the influence of fear in the exhibition of it, as to deprive the public of the wonderful benefit it may be made productive of. From the period at which the oil of turpentine came much into use as a vulnerary, internally as well as externally employed, this dread has prevailed among physicians. Its use as an external vulnerary seems to have commenced about the middle of the 17th century, (1678) in the practice of Mr. Yonge, a naval surgeon at Plymouth : and he takes occasion to enumerate the diseases to which it is internally applicable, and the writers who previous to his time had recommended and employed it. But in all these cases, he says, " its dose is from five drops to one scruple and half a drachm, always taken in a pertinent vehicle, never alone." See the curious and scarce work *Currus Triumphalis è Terebenthô.* (Lond. 1679. pp. 89.) Riverius, a little before Mr. Yonge's time, (about 1650,) speaks much of it as a purgative in diseases of the kidnies and bladder ; and he indeed seems to have had tolerable boldness in the exhibition of it. " Inter purgantia recensetur terebinthina, et in hoc affectu valdé commendatur, quia simul alvum laxat et ulcus abstergit. Eâque cum pulvere liquiritiæ exhibendi est ad semi unciam cum aqua plantaginis lota," &c. (*Prax. Medicæ*, let. 14. c. 5. *Lugd.* p. 250.) The internal use of turpentine has been considered as productive of injurious effect as that of the oil, and, although thus sanctioned by the authority of Riverius, has never, I believe, been resorted to in quantity equal to that stated in the foregoing passage. But even a century before Riverius wrote, turpentine was highly extolled as a purgative in strangury, by Piso. His language is highly expressive of conviction of the validity of the fact: "*Supra modum* etiam conducit terebinthina lota in aqua rosarum, aut intybi, *nucis magnitudine*, *aliquando duarum*, *triumve* accepta." And the quantity seems even to exceed that employed by Riverius at a subsequent period. (See *Nic. Pisonis libri de cognos. et curand. morbis*, Frankfort ed. 1585. p. 729.) It would therefore appear that confidence in this medicine has diminished as medical experience has proceeded; or as opportunities might have offered of developing and confirming its qualities. For Dr. Cullen, in his lectures on the materia medica, nearly two hundred years after Piso, thus states the result of his observations on turpentine and its oil: "The diaphoretic virtue of these balsams seems the foundation of their use in the sciatica; in which disease Pitcairn gave oil of turpentine in doses of one or two drachms, with success. For my part I never could come up to this dose, from the heat and uneasiness produced in the stomach," &c. (*Lect. on Mat. Med.* 4to. 1772. p. 266.) But is such a conjecture reconcilable with the many facts which have been produced in the course of the present year, all tending to the establishment of the proposition, that the oil of turpentine may be received into the human stomach in quantity four times exceeding that exhibited by Riverius, and eight times that given by Pitcairn ? Is it not more probable that prejudice, submission to authority, or an indolent belief, the very bane of medical science, have severally or conjointly suppressed inquiry, or deemed it unnecessary. The truth was brought to light, we are told, by a mechanic of the city of Durham ; (*Edin. Med. Journ.* vol. 6. p. 253 or 376.) by a man totally uninfluenced by these "impedimenta scientiarum." The mist being dispersed, or the yoke being thus happily taken off, several enterprising and ingenious physicians have placed that truth in its true light, that it is to be hoped it can never again be lost sight of. The various attempts which have been made either to disguise the taste and smell, or to increase the efficacy of oil of turpentine, have proved completely fruitless, and indeed have evidently given the medicine qualities and directions in the animal economy altogether repugnant to those naturally possessed by it, when left in its unadulterated state. It is hence you find some medical men thus absurdly refining, telling us that the oil of turpentine does not possess the qualities attributed to it by those who administer it as nature has presented it to the use of mankind.

III.

An account of the FEVER *which lately prevailed at the drowned lands in Orange county, New-York. Addressed to Dr.* DAVID HOSACK, *in a letter from Dr.* D. R. ARNELL, *dated August* 2, 1810.

THE drowned lands of Orange county lie in the towns of Goshen and Minisink, and contain about thirty thousand acres ; the soil is very rich and deep ; great quantities of grass and other vegetable substances grow on its surface, and they are generally overflowed with water the greater part of the season. The proprietors have been incorporated into a company for draining them, and have employed a large number of workmen for that purpose the three last summers. The country around them is hilly, rough and uneven, and has been visited with remittent and intermittent fevers during the autumn, for a number of years past; but the fever has never put on so malignant and dangerous an appearance as it has the two last seasons, at the outlet of the drowned lands, among the workmen and hands employed in draining them. The outlet is the place where the Wallkill river empties out of the drowned lands, about four and a half miles W. S. W. of the village of Goshen. The river is here about two hundred feet wide, running over a stiff clayey soil, intermixed with a great number of small and large stones, of no distinct character, but a mixture of granite, schoerl, feldspath and schistus; a large bed of schistus lies on the west bank of the kill, and a corner of the rock projects into it, though there are no other stones of that particular character in the kill. A very nauseous and disagreeable smell arises from the clay, as it is dug up by the workmen, in sinking the bed of the river.* The workmen who are employed are mostly foreigners, and the greater proportion of these are Irish; they are boarded in three different houses, two of which stand on the west, and one on the east side of the kill, which are erected and hired for that purpose, and are mostly their own cooks, or have male cooks selected from among them; they are generally intemperate, and use large quantities of spirituous liquors daily. Although the water is confined and turned from them as much as possible, still they are obliged to work a great deal in the wet.

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* The water was confined back on the drowned lands during the day, but at night the gates were opened, and it was suffered to pass off.

The sickness of 1809 began about the middle of August, and continued until the cold weather and heavy rains obliged them to discontinue their operations, which was about the last of November.

The patients generally complained of lassitude, nausea and chilliness, two or three days before they were confined. On the second or third day, the fever was ushered in with a violent shaking or ague, sickness at the stomach and vomiting, low sunk pulse, head-ache, and sometimes diarrhœa; the matter vomited was of a yellow colour, and in considerable quantities: this state continued from one to three hours, when the ague went off, the pulse rose, though not so high as it generally does in common intermittents, the skin became hot to the touch, the tongue and mouth parched and dry, an insatiable thirst, together with a continuance of the pain in the head, vomiting, and diarrhœa. This state formed the first stage of the disease, and continued about twelve or fourteen hours, when either a fair intermission or slight remission of the fever took place. In some instances, (five or six, I think,) after a fair intermission of twenty-four hours, so that the patient would go from one boarding-house to another, the fever returned with cold chills, put on more dangerous and alarming symptoms, and in three instances proved fatal in two or three days afterwards; but in most cases, a remission of the fever now took place, which was of short duration; a febrile action could be discovered in the pulse the whole time, but became increased in a few hours, and after another slight chill, rose with considerable strength and action; the skin dry and husky, the tongue covered with a thick brown crust: the colour of the skin was in most cases of a yellowish cast, thirst and vomiting returned, and the matter ejected was of a greenish colour, and in considerable quantities. This state continued for three or four days, with slight exacerbations of a quotidian type, when the patient either recovered, or a typhus state of fever ensued, which was marked by a low and quick pulse; the skin, which was before yellow, now became more dark, the tongue covered with a black crust, which, with the mouth, was dry and husky, frequent delirium, prostration of strength, and a cadaverous smell of the body. In this stage of the disease, it was remarkable what good effects stimulants had upon them, and but one died after the disease had advanced so far, which was the child of a man who took his family there in order to cook at one of the boarding houses, but who were all very soon taken sick, and obliged to leave the place. Their recovery, however, from a state of convalescence, was generally slow, owing in a great measure to their intemperance and exposure after they were able to go about; the greater number who died were taken off at the accession of the second stage of the disease, which was on the third or fourth day from the attack, and died in the cold chill which ushered in that stage; those who recovered became convalescent in about twelve or fifteen days from its commencement.

The persons this fever attacked were mostly foreigners; a few of the natives of this country were also seized with it, though they had not lived near the outlet before they went there to work, and but one died, which was the child mentioned above; the others were chiefly Irish, who were in habits of intemperance, and irregular in their manner of living. One of the overseers of the work observed to me, that he did not believe there was a single night of last season when they were all at once in the boarding-house, but some one was in a state of intoxication, either in the fields or along the fences, and exposed to the night air, and frequently to rain, and that they usually drank a quart or more of spirituous liquors during a day. The former part of the season was hot and dry, while the latter part was wet and cool. Intermittent and remittent fevers and bilious complaints were prevailing through the country at the same time to a considerable degree.

As to the mode of treatment, I was obliged to vary it considerably in different patients, as they did not all experience the same regularity of symptoms as are here described, but such was generally the case. In the first stage I prescribed cathartics of jalap and sub-mur. hydrarg. together with alkalines, particularly the carbonas potassæ ; in the second stage I gave emetics, sudorifics and alkalines ; and the third I treated uniformly with blisters and stimulants, such as brandy, wine and laudanum. Three I bled ; in one case I found manifest advantage, but the other two did not bear the lancet so well. Emetics were given in the second stage of the disease, and answered an excellent purpose ; much bile was thrown up, the nausea and vomiting which was so constant before would be relieved for thirty-six or forty-eight hours, when it would be necessary to give another emetic, which generally had the same happy effect as before. Mercury joined with jalap for a cathartic, in the first stage of the disease, had a good effect ; in one or two instances I gave it in such a manner as to produce an affection of the mouth and salivary glands, and believe it was useful, but I considered the want of care, attention and proper nursing so great, that I did not employ it as much as I should otherwise have done. I did not employ the bark until the last, or rather convalescent stage of the disease, when I joined it with bitters as a tonic to restore the strength of the system, except in some cases of tertian and intermittents, which happened at the same place. About one in twelve of those who were attacked with the fever in its remittent typhus form died. The disease uniformly commenced with a cold chill and shaking. They had uniformly remissions for five or six days of a quotidian type, but after the typhus state of fever commenced, the exacerbations could not be so distinctly marked. To those who died it generally proved fatal in five or six days after the attack; three instances occurred where it was protracted to a considerable length of time, two of whom had so far recovered as to be able to go to New-York, where they were received in the hospital, and died there. Perhaps it may not be improper here to remark, that the statement which Daniel Brady made to the attending physician, when he was admitted into that institution, was incorrect; he was deaf, and very inattentive to surrounding objects when he first came to the outlet, and had purulent ulcerations in his ears, which he then said were of several years standing; but he there stated that those were affections which came on him in consequence of an attack of the drowned land fever; the anasarcous swellings of his feet came on him soon after the fever left him, and he died in the hospital the 28th of last January, having every reason to suspect a hydrocephalus internus. There were two others who had anasarcous swellings of the feet and legs during a state of convalescence, but were cured by mercury and blisters. The stomach appeared to be much affected during the whole course of the disease, and this affection was greatly relieved by emetics; when it terminated fatally, I do not think that any of the patients had any thing like a black vomit; in one instance the vomiting appeared something like dirty water, which was ejected about an hour before death: it was no uncommon thing for them to have a bleeding at the nose, but in no instance which I saw was there blood, or any thing resembling coffee grounds, thrown up from the stomach, in any stage of the disease.

IV.

OBSERVATIONS *on* CONTAGION. *Communicated in a Letter to* COLIN CHISHOLM, M. D. F. R. S. *&c. at Clifton, near Bristol, from* DAVID HOSACK, M. D. *&c. of New-York.*

AGREEABLY to my promise in a former communication, I shall now state to you the result of my obervations on the subject of contagion, which has created so much dispute in the medical world, and which divides our profession in the western as well as in the eastern hemisphere. As far as I have examined this subject, it appears to me to be more a dispute about *words* than *facts.* The abuse of the terms *contagion* and *infection*, and the neglect of writers in not annexing to them a precise definition of the manner in which they severally employ them, have, I believe, been the source of our medical warfare, relative to the contagiousness of yellow fever, and some other diseases: *e.g.* the greater number of medical writers enumerate, in the list of contagious diseases, all those which are in any way communicable from one person to another, whether by *contact*, *fomites*, *atmosphere*, &c. without designating the *circumstances* attending these several modes of communication.

Lind, in his papers on contagion and infection, (which he considers as synonymous terms,) is guilty of this error, in which he has been followed by most writers upon the subject of fever, &c. The late Dr. Bayley, in his account of the yellow fever which prevailed in New-York in 1795, proposed a distinction between *contagious* and *infectious* diseases He made use of the first term to denote such as are communicated under any circumstances of atmosphere, whether pure or impure, as small-pox, measles, &c. *Infectious* diseases he denominated those which are communicated in consequence of an impure or vitiated state of the atmosphere, *i. e.* that the *impurities* of the atmosphere communicate the disease, not that the air contains any *specific material* derived from the patient, except such as may be occasioned by want of cleanliness. This distinction proposed by Dr. Bayley, is, in my opinion, an approach nearer the truth than any of his predecessors has advanced, but it does not present us with a view of the *whole truth*, upon the subject. The visitor or attendant contracts disease from one of *two sources*, either from the filth of the sick room, or from a *specific something* issuing from the body of the sick, the consequence of the peculiar disease under which he labours. If a person visiting another ill of the *yellow fever* or *plague*, derives his disease from the *impure atmosphere* of the apartment, I ask, how it happens, that in all instances he contracts the *same disease* with that of the person whom he visits? Why is his disorder not an *intermittent*, a *remittent*, *jail fever*, or *dysentery*, which are considered the usual produce of filth. If he derives any thing specific from the sick, his disease is then assuredly not to be considered as occasioned by the *atmosphere*, but depending on the *peculiar condition of the fluids*, or state of the system, induced by the action of a specific poison; in other words, it is to be considered a *contagious* disease. The distinction proposed by Dr. Bayley, inasmuch as it does not account for the communication of the *peculiar form* of fever or disease which is thus propagated, I therefore consider to be insufficient to account for the circumstances attending the communication of those diseases to which it is applied. That I may not be misunderstood, I will suppose A to be ill of *dysentery*, a disease well known to be attended with a *peculiar train of symptoms;* he is in a small confined apartment, his person is neglected, the atmosphere around him is rendered impure and offensive; under these circumstances B visits him, and a few days after is also taken sick with the *same disease*, attended in all respects with the *same* dangerous symptoms which characterize the disorder of A. Dr. Bayley, and those who adopt the doctrine of *infection* as opposed to *contagion*, consider the disease of B to proceed from the *impurities of the air of the chamber*, and not from any thing *peculiar* emanating or secreted from the body of A. But as we may *without hazard*, visit an equally filthy chamber where C lies ill of *cholera morbus*, or D with a *broken limb*, I therefore ascribe the disease of B to something more than the *impure air* of the chamber of A. I ascribe it to a *peculiar virus* generated in his system by the disease under which he labours, and communicated by his excretions to the surrounding atmosphere, rendering it thus capable of producing the same disease in those who may be exposed to its influence.

The communication of this virus from the sick to the well, in whatever form it may be conveyed, as uniformly produces the *same disease* as *inoculation* excites the *small-pox*, or *vaccination* conveys the *vaccine virus*. So far, then, there is something in *common* in the communication of contagious or infectious diseases, and should be accordingly expressed in the language we employ—some of those diseases are conveyed in one form, others in a different; we should then be equally careful to mark those circumstances in which they *differ*, as well as those which they possess in *common*.

Such an arrangement appears to me not only *practicable*, but, at the same time, calculated, in some degree, to harmonize the differences of opinion which now separate the contagionists and non-contagionists. Under these impressions, I propose to arrange those diseases which are communicable from one to another under three heads. First, those which are communicated *exclusively* by *contact*. In this class I enumerate

The Itch,
Syphilis,
The Sibbens of Scotland,
The Laanda of Africa,
Frambæsia or Yaws,
Elephantiasis or Leprosy,
Hydrophobia, and
The vaccine virus.

Neither of those diseases can be communicated in any other way than by *contact;* they are, therefore, *contagious* diseases, in the strict etymological sense of the term. It is also to be remarked that these diseases are never conveyed through the medium of the *atmosphere;* actual contact alone can communicate them from one person to another.

These diseases, acknowledged by all to be contagious, and so denominated by all writers, have a law of communication peculiar to themselves. But there is a second class of diseases also considered as contagious, which are communicated under different circumstances, governed, in this respect, by different laws of communication.

Those to which I now allude are such as are communicable both by *contact* and by the *atmosphere.* In this class I arrange

- Small-pox,
- Measles,
- Chicken-pox,
- Influenza,
- Hooping-Cough,
- Scarlet Fever, and
- Cynanche maligna.

Contact, or the *close approach* to the sick, labouring under these diseases, will communicate them to those who are susceptible of their influence—but they are no less communicable through the *medium of the atmosphere.* A *second law*, which governs the communication of this class of contagious diseases, is, that they are communicable in *every season*, in the heat of *summer*, as well as in the cold of *winter*—in a *pure* as well as in an *impure* air, though more readily by the latter than the former. A *third law* of communication in this class of diseases is, that the persons afflicted with them are not generally susceptible of a second attack. I say *generally*, because exceptions are related upon very respectable authority.

This second class of contagious diseases is, therefore, abundantly distinguished from the first; but they are still associated by most medical writers under the same head of contagious diseases, without assigning to each class its discriminating characters.

The same want of discrimination has, in my opinion, occasioned the numerous disputes among physicians relative to the contagiousness and non-contagiousness of those fevers which I enumerate as the *third class* of diseases that are communicable from one person to another. Under this head I arrange

Plague,
Yellow Fever,
Typhus, *Jail*, *Ship*, *Hospital or Lake Fever*, *and*
Dysentery.

These diseases are only in general communicable through the medium of an *impure* atmosphere : in a pure air, in large and well ventilated apartments, when the dress of the patient is frequently changed, all excrementitious discharges immediately removed, and attention paid to cleanliness in general, these diseases are not communicated, or very rarely so, from one to another. But in an *impure* air, rendered so by the decomposition of animal and vegetable substances, as takes place in low marshy countries, or by concentrated human effluvia, as in camps, jails, hospitals, or on ship-board, they are rendered not only extremely malignant and mortal in themselves, but become communicable to others who approach the sick, or breathe the same atmosphere, which has become *assimilated* to the poison introduced, in so much, that *the same specific disease* is communicated, whether it be the *plague*, *yellow fever*, *typhus*, or *dysentery*.

Hence we account for the fact stated by Sydenham and other writers on epidemics, that the prevailing disease swallows up all other disorders, *i. e.* that during the prevalence of an epidemic plague, typhus, dysentery, or other diseases of this class, every indisposition of a febrile sort readily assumes the character of the prevailing disorder. We know this to be experienced in the diseases of other countries, and we see it daily exemplified in our own: both in our cities and in the country towns, when after heavy showers of rain, and the action of a hot sun, a decomposition of vegetable and animal substances takes place, and dysentery or typhus fever is produced, it assimilates the air to itself, whatever may be the acting poison. But under other circumstances of weather and season, the disease thus originating from some local circumstances, or from a peculiar habit of body in the person so affected, does not extend beyond the family in which it first occurred, or, perhaps, the individual in whom it originated.

This class of diseases, therefore, like the former, has a law peculiar to itself; *i. e.* the diseases composing it are communicable, or otherwise, depending upon the *condition of atmosphere*, in which they occur or are introduced—whereas those of the second class are conveyed from person to person, through a *pure* as well as an *impure* medium: but they also are rendered more virulent and malignant in an atmosphere charged with miasmata, than in that which is free from such ingredients.

It is also, I believe, generally true of the diseases of the *third class*, not perhaps excepting the *plague* and *yellow fever*, that they may be taken a *second time*. This has been advanced by the advocates for the domestic origin of yellow fever, as an argument against the contagiousness of this disease.

But, upon the same principle, they must deny the contagiousness of all those disorders which I have enumerated in the *first* class, as *itch*, *syphilis*, *&c.* for most of them are also to be taken a second time: yet they are acknowledged by all to be *contagious diseases.* In the same manner, many persons make the *small-pox* a standard, and conclude that yellow fever is not contagious, because it is not communicated under the same circumstances of atmosphere and season, and governed by the same laws, with that disease.

They might with the same propriety conclude, that the *scarlet fever* is not contagious, because it is not attended with the pustules of small-pox. This teaches us the importance of correct language to convey the several degrees of contagion which have been noticed; and that, while we may make use of the terms now in use, we should annex to them such explanations as will convey those different laws of communication which have been enumerated. With those precautions in the use of the language we employ, I believe, the contagionists and non-contagionists will find themselves very much in the situation of those theologians of whom Pastal speaks, and ready to adopt the expression of one of them, when he observes:

> "La difference qui est entre nous est si subtile, qu'à peine pouvons nous la marquer nous mêmes."

We would then be ready to admit, that the yellow fever is a contagious or communicable disease, in an *impure* atmosphere; but not generally so where the air is preserved pure and free from noxious materials.

This doctrine too, I believe, will better account for the apparently contradictory facts, which have been urged by the advocates of the two opposing opinions, than any system that has been adopted.

It will also lead to a system of police regulations, which will best insure us against the ravages of yellow fever when introduced, at the same time that it will teach us carefully to guard against the introduction of it from abroad.

I shall treat this subject more at length upon another occasion, in connection with the evidences of the importation of the yellow fever into the United States.

New-York, *July*, 1808.

V.

FACTS *relative to the contagious nature of* YELLOW FEVER, *in the pure air of the country. In a letter addressed to* DAVID HOSACK, M. D. *from the Rev.* RICHARD CHANNING MOORE, M. D.

Staten-Island, October 20, 1806.

DEAR SIR,

THE discordant opinions which are held by physicians of the first reputation, upon the subject of yellow fever, have prevented me from replying to your letter of January last, lest the information which I may offer should give rise to such observations, as would necessarily involve me in a medical controversy. From frequent conversations with my worthy preceptor, the late Mr. Richard Bayley, as well as from the perusal of those tracts which had fallen under my notice, I for many years entertained the opinion, that the yellow fever, which hath proved a scourge to our cities, originated exclusively within their enclosures, and was confined to the impurity of their immediate atmosphere.

One of the first circumstances which excited in my mind an impression of the infectious nature of the disease, and which induced an alteration in my views, was the illness and subsequent death of Dr. Wynant and his wife. This gentleman had been called to take the charge of a man from New-York, ill with yellow fever, upon the north side of this island. The doctor, after an examination of the case, judged it expedient to bleed his patient, and while engaged in the performance of that operation, the man was seized with violent puking, and discharged the contents of his stomach upon his physician's clothes.

From the appearance of the matter so discharged, Dr. Wynant expressed his apprehensions with respect to his own safety ; he continued, however, his attendance faithfully until the patient expired. A few days after the death of the person alluded to, Dr. Wynant was taken seriously ill ; the usual remedies were applied, from the use of which he imagined himself relieved, and expressed a conviction of his recovery. At this moment he was visited by Dr. Henderson and myself. When we entered his room, which was a fine, airy, comfortable apartment, he declared to us his expectation of being restored in a little time ; the danger of the disease he concluded to be completely removed, and he was then in the use of bark and wine. His wife, an amiable woman, was sitting at his bed side, to all appearance in full health, elated with the prospect of her husband's recovery. She however soon discovered that her hopes were premature : the next day the companion of her bosom was wrested from her arms, by that fatal disease, the force of which she had flattered herself was subdued.

Upon the day in which the doctor died, which was the 13th of October, '99, Mrs. Wynant was attacked with the same fever which had terminated the life of her husband,

and in the space of five days from its commencement she fell a victim to its malignant, deadly influence.

About three years have elapsed since I was called to visit, in consultation with Dr. Halsey, the son of a favourite parishioner, who was ill with yellow fever, which disease he had contracted in the city of New-York. The day preceding the dissolution of the young gentleman in question, it was necessary, in consequence of a copious involuntary discharge of urine, to change the sheets upon his bed, and whilst the disconsolate father raised the body of his son, I supported his drooping head upon my shoulder. The patient died; I performed his funeral rites, and in a few days was attacked with the disease myself. During my confinement and convalescence, I was visited by several of the faculty. Dr. Bainbridge of New-York was at my house, who expressed his conviction of the serious nature of the disease, from which I was then recovering. It must be remembered that I had not been in the city for *many weeks* preceding my indisposition, and that the young gentleman from whom I received the complaint was confined in an airy, well ventilated chamber, surrounded with every comfort which the tenderness and opulence of his parents could procure.

In addition to the instances above mentioned, I have been informed by Mr. Abraham Banker, a gentleman of learning and intelligence, of the death of Mr. Degroat and his wife. It appears that a person from the city of New-York, by the name of Oswald, had engaged lodgings for himself and family at the house of Mr. Degroat, an opulent farmer upon the north side of this island. Mr. Degroat went to the ferry with his wagon to escort the strangers to his house; and upon his return home, rode next to Mr. Oswald, with whom he was engaged in close conversation. A few days after the arrival of Mr. Oswald, Mr. Degroat was seized with yellow fever, to which he very soon fell a victim. Mrs. Degroat, who had affectionately attended her husband, was also attacked, and after struggling with the disease a few days, she followed her late companion to the tomb. Mr. Oswald, from whom, Mr. Banker is convinced, the contagious effects of the disease were received, added another to the list of mortality in that family; so that in the space of ten or twelve days, from the arrival of those fugitives from the city, the house was swept of three of its inhabitants.

In the preceding narrative, I have related such facts as have occurred in the circle of a few miles, and I leave you at full liberty to make such use of them as you may deem expedient to the public good. To resist the force of truth cannot be the object of any individual of the faculty of medicine: the learning and the talents of our medical brethren must render them superior to every sinister consideration, and I feel persuaded that their united wish is to advance the health and happiness of their fellow creatures, and to diffuse a light upon a subject, of which, to say the least, the views of physicians are extremely imperfect.

Accept, dear Sir, the assurances of my regard, with which my mind is impressed toward you, and believe me to be your friend and humble servant,

RICHARD CHANNING MOORE,

Dr. D. HOSACK.

VI.

FACTS *relative to the Effects of certain Preparations of* ARSENIC *in* INTERMITTING FEVERS, *with occasional Remarks. By Dr. William Currie, Fellow of the College of Physicians, Philadelphia,* &c.

THOUGH arsenic, when taken to a certain extent, has always been ranked among the most dangerous poisons, particular preparations of it have been employed by empirics for more than a century in the cure of agues or intermitting fevers. It appears from an article published in the 3d volume of the British Critic, that it was first introduced into regular practice in the year 1774, by Mr. Mowbray, a surgeon at Biggleswade, who for a small sum purchased from the widow of a German empiric, a recipe for the preparation of a remedy which he had employed as a specific in the cure of agues, the principal ingredient of which was arsenic.

This recipe, Mr. Mowbray, with becoming liberality, communicated to several of his medical friends, and employed it himself with great success. At that time Mr. Mowbray had a shopman whose name was Edwards, who usually prepared this medicine. Edwards afterwards settled at New-Market, and vended it under the name of the ague tincture. This remedy was occasionally adopted in the hospital practice at Staffords, in the years 1781, 2 and 3; and in the beginning of 1783, Mr. Hughs, to whom Dr. Fowler pays a high compliment for industry, attention, and abilities in his profession, informed him, that he had tried to imitate these ague drops, and that from a number of experiments he was convinced they were a preparation of arsenic. This information directed the attention of Dr. Fowler to the use of arsenic in intermittents, and taking advantage of a hint given by Dr. Lewis, he thought of preparing a watery solution of it by means of the fixed vegetable alkali. After trials with such a solution of different degrees of strength, he adopted the following formula. "*R. Arsenici albi in pulverem subtlissimum triti; salis alkalini fixi vegetabilis purificati singulorum grana sexaginta quatuor; aquæ fontanæ distillatæ libram dimidiam, immittantur in ampullam florentinam qua in balneo arenæ posita aqua lente ebulliat donec arsenicum perfecte solutum fuerit; deinde solutioni frigidæ adde spiritus lavendulæ compositi unciam dimidiam, aquæ fontanæ distillatæ libram dimidiam plus vel minus adeo ut solutionis mensuræ libra una accurata sit vel potius unciæ quindecim cum dimidia.*"

This formula Dr. Fowler employed in a very great variety of different cases, and in the generality of them with the most flattering success. In some of the cases, however, when from inadvertency or other circumstances it was administered in over doses, it operated as a violent emetic, attended with griping and purging.

In seven cases of periodical head-ache in which he employed it, six of these were radically cured by taking from twelve to twenty drops three times a day.

He frequently used it from ten drops twice a day, to twenty drops three times a day, and has cured agues by both extremes, as well as by intermediate doses. The latter, however, he found to be more efficacious than the former; but this superior success was counterbalanced by their operative effects being sometimes troublesome and distressing; hence he gives the preference to the intermediate doses, which will at the same time in general be found to be sufficiently successful. He recommends the following doses of the preceding formula as the most advantageous and safe, viz.

To patients from two to four years of age, from two to four drops; to patients from five to seven years, from five to seven drops; to those from eight to twelve, from seven to ten drops; to patients from thirteen to eighteen, from ten to twelve drops; and to patients from eighteen and upwards, twelve drops for a dose.

These he directs to be given to adults in a tea-cup full of water, and to children in a less quantity of the same, at stated hours, whether they coincide with the paroxysm or not, three times a day, for five days. At the end of that time, the fits being suspended, he advises the use of the medicine to be omitted for two or three days, and then repeated for three days, to prevent a relapse. When the sensible effects of the medicine were troublesome, he either omitted the medicine till that effect ceased, or added a sufficient quantity of laudanum to the solution to relieve that effect. When a nausea of half an hour's duration, an evacuation extraordinary a day, or slight griping pains in the bowels follow the exhibition of this medicine, according to Dr. Fowler, they scarcely require notice; but when either the vomiting or purging becomes distressing and troublesome, opiates in small doses, repeated as the symptoms may require, generally afford effectual relief. The œdematous swelling of the face and eye-lids, which sometimes occur a few days after commencing the use of the medicine, generally subside on discontinuing it; when they do not, its removal may be accelerated by emetics and cathartics. The efficacy as well as safety of arsenic in intermitting fevers, prepared according to the above prescription, is not only supported by the testimony of Doctors Fowler and Arnold, but by Doctors Withering, Willan, and Hamilton, and by many other physicians of distinguished abilities.

It has also succeeded in the hands of some of the members of this college, and with Dr. Wistar in particular; especially where infants or young children have been the subjects of the disease.

Dr. Hamilton has frequently employed a solution of arsenic in water, without the addition of the alkaline salt, and is of opinion that it is equally safe as well as efficacious, provided the solution be carefully filtered through paper to prevent any undissolved particles of arsenic from escaping. In no case that he employed this preparation did he observe that it produced any permanent ill effect, or any temporary inconvenience, except nausea or griping and tenesmus. These by care in the exhibition of the medicine, particularly with the first doses, which were always small, were prevented from becoming troublesome, or in the smallest degree alarming. It is probable, however, that the preparation employed by Dr. Hamilton, from not being united with the alkali, is less steady in its effects, as it is less readily diffusible in a farther quantity of menstruum than when in a saline state.

It is a common practice in the state of Delaware to give powdered arsenic combined with opium in the form of a pill or rolls in doses: to an adult one-sixteenth of a grain of the former, and one-fourth of a grain of the latter, repeated two or three times a day. But from the distressing, and even dangerous effects, which have been observed by different physicians to have followed the too frequent or incautious exhibition of a weak filtered solution of this highly active substance, and from its well known corrosive effects when applied to the surface of the stomach in an undiluted state, I cannot think it warrantable to exhibit it in that form.

We have the testimony of Sir George Baker, published in the third volume of the transactions of the London college of physicians, that though a medicine composed of arsenic and opium, the dose of which was a very few drops in water, was taken by some people, and sometimes successfully, in the cure of intermittents, violent vomitings and dysentery were now and then the effects of it, and in one case it was followed by a palsy of the lower limbs.

Dr. Clark, in his observations on diseases of long voyages, says, the use of arsenic in fevers sometimes occasions swellings of the face, and other distressing symptoms.

Doctor Girdlestone, in a communication published in the 15th volume of the London Medical and Physical Journal, says, he has had several opportunities of observing sickness, pains of the abdomen, nasal hæmorrhage, cough, icteric symptoms, and dropsy, induced by the incautious or too large doses of Fowler's solution of arsenic. One child lost its nails, hair, and part of its skin, from this solution, which a lady had given to it in improper doses. It occasioned a very great weakness in the bowels of a gentleman who took twenty drops of it three times a day, for more than three months, for a leprous affection, without curing the disorder so soon as may generally be done with much smaller doses.

In my own practice I have seldom employed any of the preparations of arsenic, when the patient could be prevailed on to take the Peruvian bark in sufficient quantity, and it could be retained on the stomach; and when I have employed it, I have never ventured to prescribe six, eight, or ten drops of Fowler's solution, three times a day to an adult, without regard to the exacerbations of the fever, and from one to four drops to an infant or young child.

As a vehicle to administer it in, Dr. Girdlestone gives the preference to an agreeable spicy decoction or infusion; but I have found children take it more readily in a small draught of sweetened water, and when it has disagreed with the stomach or bowels, which is the only inconvenience I have ever seen produced by it, I have directed it to be given in a draught of cinnamon or peppermint julap, with the addition of from one to five or six drops of laudanum to each dose, according to the age of the patient and severity of the symptoms.

It is often very difficult to determine the credit due to a remedy in a disease which frequently ceases without the use of any medicine whatever, or after the exhibition of such as cannot possibly have any share in the cure, its cessation being apparently occasioned in some instances by a change in the temperature of the atmosphere, a removal of the remote causes, or a suspension of the proximate cause, in consequence of some sudden emotion of the mind. But I have so frequently seen the disease in patients residing in the marshy tract of ground below the city, in seasons when the complaint has been remarkably prevalent, leave the patient so much sooner after the regular use of this remedy for five or six days, than, from the regularity of the recurrence of the paroxysms and the increasing debility of the patient, I had any reason to suppose would have been the case, if left to take its own course, or if treated by any of the remedies in common use, except the Peruvian bark, that I have not the most distant doubt of the cure being produced by the operation of the arsenic. And notwithstanding the idea of danger which is generally associated with the name of arsenic, I am perfectly satisfied that, with proper caution and due attention to its sensible effects, it may be administered with as much safety as many other medicines in common use, such as corrosive sublimate, sulphate of copper, tartarised antimony, and opium, all of which, in certain doses, are destructive to life. And I am convinced from my own experience, as well as from the testimony of several eminent, impartial and disinterested physicians, that it is a very efficacious remedy in the generality of the cases of regular intermittents, and in those periodical head-aches which occur in the season when intermittents are most prevalent.

Dr. Fowler is of opinion that arsenic is also a valuable remedy in cases of the common autumnal remittent, but as I have never tried it in this form or type of fever, I cannot pretend to say whether his opinion is correct or not; but admitting it to be so, I should not think myself justifiable in prescribing it in any case where the debility and other symptoms indicate great danger, lest from its tendency to occasion sickness, griping and tenesmus, it should increase the debility, and consequently the danger, especially as under such circumstances, the fatal progress of the disease may be generally arrested by injections of bark, the liberal use of wine, and the application and frequent repetition of blisters and sinapisms.

VII.

An account of the MINERALS *of* LOUISIANA, *by Mr.* BRACKENRIDGE. *Communicated to the Editors by* WILLIAM DUANE, *Esq. of Philadelphia.*

IF we denominate parts of the United States by their predominating characters and qualities, this territory may be called *the country of minerals.*

I have not heard that gold has been found in any part of the territory; but it is probable that there are some of the precious metals, and nearly all the useful ones, in great abundance. I have heard an account of a wonderful mass of *platina*, on Black river; this is not sufficiently attested, so as to merit much attention.* It is the prevailing opinion that there is silver, and numerous stories are related respecting it. Geographers have, for a long time, agreed in placing a silver mine on the Arkansas; and, considering the precision with which it is marked on the map, it is surprising to me that some of our enterprising Americans do not avail themselves of it. A hundred places, where there is said to be silver ore, are indicated, from the information of Indians and hunters, on the Mississippi, Arkansas, and the waters of White river.

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* The story is related by the Indians and hunters; it has been adjudged *platina* from their description, but if such a thing exists at all, it is most likely some other metal. The weight of the mass is so disproportioned to its size, as to afford a curious deception to the Indians, who have called it a manitou or spirit; it would weigh from their account several tons. I have noticed this circumstance, not with a view of giving it any credit or importance, but merely to shew that such a story prevails

The idea of this wealth in precious metals is certainly flattering: but the experience of Spain affords a salutary lesson, that a people may possess it in the greatest abundance, and be poor in every thing else. The celebrated Adam Smith has very justly observed, that it is *labour* and *industry alone* that give a nation *real wealth.* We should be richer in mines of iron and lead, than in those of gold and silver.

When we consider the situation of that space between the rocky mountains, the Cordilleras, (which pervade New Mexico) and the rivers Mississippi and Missouri, a conjecture may be formed not altogether unworthy of attention. Silver mines have been discovered north of the Cordilleras, and are worked by the Spaniards. From the resemblance in the character and appearance of the country between these mountains to the Missouri, and the connection of the different ridges which chequer this plain, it seems probable that the same minerals are found; or at least, disappear gradually towards the north and the north east. The volcanic tract, perhaps, is the tract of rich minerals. This conjecture, however, is submitted with diffidence.

With more certainty, I will venture to mark the situation and extent of the mineral tracts, or at least so much of them as traverse the territory. Nearest to the Mississippi, and beginning on White river and the St. Francis, with its main course and diverging branches, about one hundred miles in breadth and six hundred in length, is the tract of lead mineral; certainly the most extensive body of any mineral known in the world. On all the greater rivers that traverse this tract, the mineral shews itself in various places of their channels, and where the soil has been carried off; on the Maramek, the Gasconade, the Osage, the Mine river of the Missouri, the Missouri itself, on la riviere des Moines, and at length strikes the Mississippi, at the Ouisconsing. At this place it crosses the river, and is afterwards seen, though not in great abundance, in the places round the Michigan. There is very little doubt but that all this tract abounds with lead mineral, and may afford thousands of the richest mines.

The lead mines at present wrought and productive, are those between the St. Francis and the Maramek, about sixty miles in length and twenty in breadth ; and those on the Mississippi, at the Ouisconsing or Prairie du Chien. I reserve the description of the first, for a separate number. The mines of the Prairie du Chien, are still in the lands of the Sacs and the Foxes, and are wrought by themselves exclusively ; this is consequently done in a very imperfect manner. During the last year they made six hundred thousand weight, which they disposed of to traders. The principal advantages of these mines are enjoyed by two or three enterprising gentlemen of St. Louis, who have made establishments there ; Mr. Abraham Gallatin & Co. and Mr. Forgus Moorehead. Both these gentlemen are natives of the United States, and deserving of much praise for their perseverance and enterprise, in opening this new and advantageous trade. From every account, the Sac mines are the richest that have been yet opened. The Indians are badly provided with tools for mining ; a hoe is almost the only instrument which they use. They merely scratch away the soil a few feet, and the mineral, without exaggeration, may be said to be prized up, in the manner of stones in a quarry. The mode of smelting is equally unskilful. The mineral is merely thrown on piles of wood, and afterwards the lead is gathered up in cakes, in the same shapes and forms, as assumed by melted lead, when thrown out upon a

The volcanic tract, may be placed west of the last, and extends to the rocky mountains. It was formely conjectured, from the floating of pumice stone on the Missouri, that some part of the country traversed by this river or its waters, was volcanic; it is now nearly reduced to a certainty. It is the opinion of many intelligent persons who have visited this country. Others are of opinion, however, that the burning of coal banks give rise to these ideas. Near the Mandans smoke is emitted in many places, and by putting down a stick into the fissure from whence it issues, fire is instantly communicated. I think it probable, that on a close examination of the country, evident traces of extinguished volcanoes will be discovered. Mr. List informs me, that about sixty miles from his fort on the Roche Jaune, 170 miles from its mouth, near the junction of a stream that discharges itself into the Roche Jaune, there is a volcano which actually emits flames.

In this tract immense quantities of sulphur can be procured. It is not only found in caves but can be scraped off the prairie in the manner of the salt.

I have spoken of the mineral bodies that are found in the greatest abundance; I shall now mention such as are dispersed through the country in smaller quantities.

Copper is certainly found on the Mississippi, between la riviere des Moines and the Ouisconsing: and several other places in the territory are indicated. There is iron ore on the St. Francis, the Maramek, the Gasconade, and the Osage: great quantities are found on the waters of White river. On the St. Francis, there are huge masses of it like rocks. Many good judges, however, do not think favourably of this ore. Specimens of antimony have been brought in by Indians and hunters, but they have not been prevailed upon to shew the places where they procured them, though offered very handsome rewards; perhaps owing to their general belief of its being the ore of silver or gold. Mr. Bradbury, in examining the lead mines, discovered, that the miners were throwing away as useless, the *bland ore* of zinc. Coal is found in a variety of places; and there is no doubt, but that abundance of this useful mineral will be discovered, for every necessary purpose, and even for trade. The coal banks lately opened, and worked by Messrs. Baird and Morehead, east of the Mississippi, are not inferior to those of Pittsburgh, and promise an inexhaustible quantity. Nature seems to have showered her gifts upon this country with unparalleled profusion.

Saltpetre has been made on the Gasconade, and there is no doubt, but that great abundance may be had throughout this country, which is generally limestone, and consequently cavernous; in caves from the Missouri to the St. Francis, there are immense quantities of a pure silex, as white as refined sugar, and so much like it, that the difference is not discernible to the eye. I have seen a deception practised to a stranger by giving a lump, and passing it for sugar. It crumbles with the pressure of the fingers: In the manufacture of glass, it will undoubtedly be of importance. A beautiful serpentine, of a red colour, is found between la riviere des Moines and the river St. Peter, of which the Indians make their pipes. It is soft and easily cut into any shape, in the first instance, but soon becomes as hard as marble. A curious circumstance is connected with this, which is noticed by several writers. The Indians of different tribes, no matter how inveterate or fierce their animosities with each other, when they meet here it is always in peace. At this place of general rendezvous, that most ungovernable of savage propensities, revenge, is completely subdued. This is one of the most extraordinary and interesting facts that is any where related.

There is marble in the territory in various places; it resembles that which is commonly found in Kentucky; but none of the superior quality has yet been discovered. On Bon Homme creek, about fifteen miles from this place, a quarry of stone has been lately opened, which *is said* to equal the French burr. The mill stones procured here are certainly of a superior quality.

Earths and clays, of a rare and useful kind, have been found in different parts of the territory. Gypsum is said to be discovered on the Maramek, and in the district of cape Girardeau, there is a kind of clay that in painting answers the purpose of ochre.

I will conclude this sketch by noticing a curious phenomenon that has been observed, but without attempting any solution, leaving this to the learned. On the St. Francis, and in the White river country, subterraneous explosions have been heard, and their effects seen in several places. The report of the explosion is like that of a cannon or distant thunder, and the earth and rocks appear to be convulsed, as though by the force of gunpowder. The rocks blown up are said to be glazed with a shining matter of a metallic appearance. The fact is well attested.

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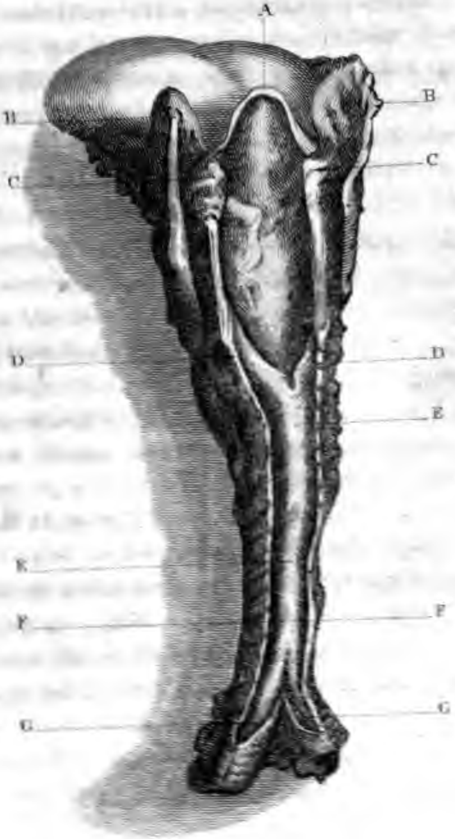
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VIII.

OBSERVATIONS *on* CROUP: *Communicated in a Letter to* ALIRE R. DELILE, M. D. *Physician in Paris, Member of the Institute of Egypt, &c. from* DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine in the University of New-York.*

New-York, June 28th, 1811.

DEAR SIR,

You some time since requested me to communicate to you in writing the observations I had expressed in conversation relative to the nature of Croup, and the mode of treatment which I had found most successful in that disease. I now comply with your request, but shall confine my remarks chiefly to those points in which my views of this subject may differ from those usually met with in medical writings.

The various names under which this disease is described by authors are familiarly known to you.

In common language it also receives different appellations: In Ireland it is called *chock*, or stuffing; in England and Scotland croup; but more usually in this country it receives the name of hives, a corruption of the term heaves, which is probably so called from the heaving or violent efforts of the muscles of the chest and abdomen, which take place in this disease during the process of respiration.

Croup, according to the definition given of it by Dr. Cullen, consists "in an inflammation of the glottis, larynx, or upper part of the trachea, whether it affects the membranes of these parts or the muscles adjoining." In one particular this definition is defective, as the disease is not confined to the upper portion of the trachea, but also most usually extends itself throughout the whole of the windpipe, even into the bronchiæ, and to a degree over the whole surface of the lungs. The effusion of the lymph, or other materials, constituting the membrane, which is the effect of this disease, also very frequently extends into the bronchiæ, though of a less firm texture than that part of it which is found in the upper portion of the trachea. Some preparations in the anatomical museum of Columbia College shew this fact. My colleague, Mr. John Augustine Smith, the professor of anatomy and surgery in the university of New-York, also informs me, that in a case of croup, lately met with by him, in which he was called upon to examine the parts after death, he observed the membrane to extend as far as the bronchiæ could be traced by the knife.

Conversing lately on this subject with Dr. Bard, the president of the college of physicians and surgeons of this city, and who has probably been more conversant with this disease than most practitioners, he informs me, that he has commonly observed in those cases which he has examined after death, that the membrane extended into the bronchiæ as well as the trachea.

The annexed engraving exhibits, in that part of it above the line FF, a correct view of a preparation in the possession of the professor of anatomy in Columbia college, in which the membrane formed in the trachea is preserved in the manner represented. The portion below the line FF represents the same membrane extended into the bronchiæ, as observed by Dr. Bard, who pronounces it to be a correct representation of the fact, as met with by him upon dissection. To my friend, Mr. Inderwick, I am indebted for the very beautiful drawing from which this engraving has been made.*

Dr. Bard also remarks, that the disease is not even limited to the trachea and bronchiæ, but that the lungs throughout their whole substance, to a certain degree participate in the affection; insomuch that he has seen those organs rendered so dense and solid, that they exhibited in their appearance a great resemblance to the firm and dense structure of the liver, instead of the spongy, loose texture which the lungs naturally present.

The appearances upon dissection, related by Dr. Cheyne in the last edition of his valuable work† on this subject, correspond with the observations made by Dr. Bard: "When the child dies after an illness of four or five days, there is found lining the windpipe a white substance, sometimes of considerable tenacity, varying in thickness, and somewhat in density. It arises at, or a little below the larynx, and is prolonged into the divisions of the trachea: and generally a quantity of a white fluid like purulent matter, with which they are filled, is seen working up from the lungs. The inner coat of the windpipe, to which the membrane is attached, is inflamed.

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* *Explanation of the plate.*

A the epiglottis.
BB the cornua of the thyroid cartilage.
CC the cricoid cartilage divided.
DD the trachea cut open.
EE the membrane formed in the trachea.
FF see above.
GG the membrane extending into the bronchiæ.

† Pathology of the membrane of the larynx and bronchia. By John Cheyne, M.D. Edinburgh, 1809. p. 24, 25.

Generally the inflammation is also discernible along the whole course of the membrane of the bronchia. A serous fluid appears to fill the cells of the interstitial substance. The lungs have a solid feel, from the interstitial effusion, the fullness of the blood-vessels, and the puriform fluid in the bronchial tubes. There is little or no recession of the lungs when the thorax is opened. There are sometimes evident marks of increased vascularity in the pleura pulmonalis. There is serous effusion in the cavity of the thorax and in the pericardium. The cavities of the heart are in general unusually full of blood."

Dr. Cullen very properly observes, that croup may arise, "first in these parts, and continue to subsist in them alone, or it may come to affect these parts from the cynanche tonsillaris or maligna spreading into them." This observation was long since made by Dr. Cullen, and has been abundantly established by the cases and dissections published by Dr. Bard, whose treatise* is referred to in the nosology of Dr. Cullen, under the head of cynanche maligna. Other writers however do not appear to have paid sufficient attention to this distinction.

Some years since I was called in consultation to a case similar to those described in the valuable treatise of Dr. Bard. The disease began with an inflammation of the tonsils, but was soon succeeded by ulceration, attended with fœtid breath and a foul appearance of the parts affected. About the third day the inflammation extended into the trachea, producing the laborious respiration and hoarse, hollow-sounding cough which characterize idiopathic croup ; in twenty-four hours it proved fatal. The attending physician informed me, that during the first three days the child had not manifested any symptoms denoting croup ; but, as in the cases recorded by Dr. Bard, they were probably induced by the inflammation and subsequent acrid secretion extending from the tonsils into the trachea. Since that time I have met with several instances of a similar nature succeeding to malignant sore throat. Other practitioners in this city, who have had frequent opportunities of seeing croup, confirm the observation that this termination of cynanche maligna is not an unfrequent occurrence. Dr. Bard informs me that since the publication of his Essay in 1771 he has frequently observed this disease as the sequela of cynanche maligna. Two cases of croup supervening as an accessory disease in ulcerated sore-throat are also related by Dr. Ferriar in his valuable paper on that subject. "Though there were large ulcerations in the tonsils," he observes, "there was nothing uncommon in the symptoms till the inflammation extended to the trachea, when faint, shrill coughing, hissing respiration, and restlessness came on, which were soon followed by death."*

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* See an Enquiry into the Nature, Cause, and Cure of the Angina Suffocativa, or Sore-throat Distemper: by Samuel Bard, M. D. Professor of Medicine in King's College, New-York. *New-York*, 8vo. 1771.

See also American Philosophical Transactions, vol. 1. p. 388.

Croup also, in some instances, is the attendant upon scarlatina. A case of this kind occurred in a child of Mr. Peter P. Goelet, of this city ; in that case ulcers of the tonsils, which were attended with considerable inflammation, and an acrid offensive discharge preceded the symptoms of croup : but by the use of emetic medicine the patient was relieved of these alarming symptoms, and by the use of bark and yeast, which were afterwards administered, both internally and as a gargle, completely restored. In Mr. Cheyne's treatise before referred to, a case of scarlet fever is recorded which proved fatal, in which the membrane was actually formed as in croup, and was removed after death by Doctor Rollo, surgeon of the Woolwich hospital.*

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* See Med. Hist. and Reflec. vol. 3. p. 205.

In some instances, especially where ulcerations take place in the larynx, croup also succeeds to *measles*.† In a case related by Dr. Cheyne, it also succeeded to the secondary fever of small pox; and by Dr. Underwood it has been known as the attendant upon the *putrid thrush*.‡ Croup also, says Dr. Cheyne, very often supersedes a common catarrhal affection. In a singular instance, Dr. Ferriar also observes, that he has seen pneumonic inflammation converted into a croup on the tenth day of the disease.§ Dr. Rush remarks, "I have seen it accompany as well as succeed the small pox, measles, scarlet fever, and apthous sore-throat. In the late Dr. Foulke it succeeded acute rheumatism. The late Dr. Sayre informed me he had seen it occur in a case of yellow fever in the year 1798."¶

With these facts before us, therefore, there appears to be just ground for dividing this disease into two species: viz. *idiopathic* and *symptomatic* croup: *idiopathic* where the disease is primarily and exclusively seated in the trachea, bronchiæ and surface of the lungs ; *symptomatic*, where it is the consequence of other previous diseases.

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* See Cheyne, p. 37.

† Ibid. p. 39.

‡ See Diseases of Children, 4th edit. vol. 1. p. 333.

§ Med. Hist. and Reflec. vol. 3. p. 205.

¶ Med. Inq. and Obs. vol. 2. p. 376. 3d edit.

It is asserted by some writers, but denied by others, that cynanche trachealis is an *infectious* disease.

As the cynanche maligna and scarlatina are communicated by contagion or infection, doubtless they may also be so in their consequences ; and in this way croup may be transferred by those diseases as the vehicle of communication. The cases related by Von Rosenstein,* in evidence of the infectious nature of croup, were probably cases of cynanche maligna, similar to those described by Dr. Bard. We hence see the propriety of Dr. Cheyne's observation, that "when a physician has to visit more children than one, with a croupy affection, in a family or neighbourhood, he ought carefully to examine the state of *the fauces*."† But that idiopathic cynanche trachealis is infectious, I believe there can be no ground for supposing. I should as readily believe that an inflammation of the brain or of the pleura should be thus communicated, as an inflammation of the membrane lining the trachea ; and I believe it may be safely asserted that the fact is otherwise. In the numerous families in which I have prescribed for this disease, I have never known it to be thus communicated, either to the attendants upon the sick, or to other children, even though sleeping in the same room, and frequently in the same bed ; but I have more than once been called in the same night to two children of the same family, both having been exposed to the same cause, and especially where there is a great predisposition to attacks of this disease, as is the case in particular families.

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* See Von Rosenstein on the Diseases of Children, translated by Sparmann.

† Page 19.

It also happens that when a child has suffered one attack of croup, it becomes liable afterwards to repeated returns of the same complaint, and that too upon the application of much slighter causes than had induced the first invasion. The same observation, you know, is made of pleurisy, sore-throat, rheumatism, and most inflammatory complaints. I am credibly informed of a lady who has suffered twenty-one attacks of pleurisy. How much more, susceptible of impressions is the sensible membrane lining the trachea, especially during infancy? But happily as this sensibility diminishes by age, the returns of the disease become less frequent, and when children arrive at the tenth year, it is comparatively of rare occurrence.

I have never visited a child upward of twelve years of age in this complaint, except where it had suffered previous attacks of it; yet in some instances, as before remarked, adults are the subjects of this disease. In the winter of 1809, I was called out of bed to a lady who had lately removed to this city from the state of Virginia. She went to bed in perfect health; she was awakened by coughing, attended with pain, and a sense of burning in her throat. These symptoms were soon followed by difficult, hoarse, and laboured respiration; her husband became very much alarmed, and called upon me between twelve and one o'clock: I found her in great distress, coughing almost incessantly, every inspiration being attended with the peculiar noise of croup. Her cough was dry, accompanied with the usual deep hollow sound, that characterizes this disease in infancy. I immediately bled her freely from the arm, gave her an antimonial emetic, and applied a blister to the throat. I also left directions, that if the difficulty of breathing should continue, to take a dose of calomel and James' powder, composed of five grains each, every two hours, and to dilute freely with warm toast-water, herb-tea, or barley-water, which are the drinks I usually direct in this disease. By these means she was relieved in a few hours. I was also in like manner called upon about three years ago to another lady attacked in a very similar manner, and who was relieved by the same means that have been enumerated in the former case.

During the year in which I resided in Virginia, in 1790–1, I visited, in the neighbourhood of Alexandria, a man dying with every symptom characteristic of this disease. Dr. Mitchill, the professor of natural history in the university of this state, suffered a severe attack of croup in the spring of 1801, during his attendance at Washington as a member of congress. The interesting history of his case is subjoined. But there is an instance of this disease attacking the adult which can never be forgotten, as it deprived our country and the world of one of their most illustrious citizens, George Washington, late President of the United States.

Most writers have followed Mr. Home, in representing the disease as more particularly confined to maritime situations; but it is now well ascertained, that although croup is of most frequent occurrence on the sea coast, where the air is loaded with moisture, and the changes of weather are most sensibly experienced, that it is still oftentimes met with in the interior of the country. The publications of Dr. Rush and Dr. Currie,* of Philadelphia, Dr. Stearns, of the county of Albany, in the state of New York, and Dr. Archer, of Maryland, afford evidence of this fact, for they have described the disease as it appears in places very distant from the sea. Dr. Cullen observes, that it is met with in inland countries as well as on the coast. Most usually it is ascribed to cold as its exciting cause. It is true it is frequently produced during the severe cold of winter; but as far as I have noted its occurrence, it appears most frequently upon the approach of winter, and in the spring. I have also observed, that during severe blowing and stormy weather the cases of it are most numerous. During the summer season it is also produced by the same cause. I have frequently traced an attack of croup to the imprudent exposure of a child to the night air after a hot day, or to a stream of air to which it had been exposed in a hall or window.

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* Currie's View of the Diseases most prevalent in the United States of America, at different seasons of the year, with an Account of the most approved Method of treating them, &c.

This disease is described by Dr. Cullen, and by most practical writers, as consisting in an inflammation of the secreting membrane lining the trachea. But Dr. Millar,* Dr. Underwood, Mr. Field,† and Dr. Archer, of Maryland, describe two species of croup; one *inflammatory*, another, which they denominate *spasmodic* croup. You well know, by your residence with me as a pupil of medicine, that it is a disease of very frequent occurrence in this city; yet, although I have been eighteen years a practitioner of medicine, and in that time have prescribed for many patients in this disease, I have never met with a single instance in which it assumed the spasmodic character, described by those gentlemen, unaccompanied by symptoms of local inflammation.

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[*] Millar on Asthma and Hooping-cough.

[†] Edinburgh Practice of Physic, vol. 1. p. 355.

Dr. Bard, whose practice has been more extensive than that of any other physician of this city, informs me, that from the year 1762 to the present time, he has never met with a case of croup that was not attended with symptoms of inflammation. Dr. Scott, of New-Brunswick, who has practised medicine with great reputation in the state of New-Jersey, for about fifty years, makes a similar observation. It is true that this disease attacks the patient very suddenly, and that in its commencement the affection of the throat is frequently without pain, and is attended with very little fever, even during the first two or three hours after the attack ; while the cough, peculiar noise, and labour of respiration which characterize croup, are very considerable, and to the friends acquainted with the nature of the disease, and apprised of its dangerous consequences, very alarming. Most usually, however, in those cases in which the child is old enough to express its sensations, there is a sense of pricking, burning, or irritation in the windpipe, sufficient to denote the seat of the disease ; and such is the sensibility of the windpipe to the impressions made upon that delicate organ, that the local affection, as in the first attack of pleurisy, is out of all proportion to the general febrile excitement of the system ; for neither the pulse or heat of skin are much affected during the first two or three hours of the disease. These facts, and the sudden relief which the patient sometimes obtains from the means prescribed during the first stage of the complaint, have, perhaps, led the authors mentioned to consider croup as, in some cases, a spasmodic disease of the windpipe : sometimes, too, especially when occurring in a delicate habit of body, the use of the common domestic remedies, viz. warm bathing and warm drinks, are sufficient, by the relaxation they induce in the system, to restore the suppressed excretions, and thereby to remove the irritation from the part affected. But notwithstanding this happy termination, it does not follow that the disease is only spasmodic, and not inflammatory; for we frequently see catarrh, and sometimes even incipient pleurisy, by all acknowledged to be diseases exclusively of an inflammatory nature, removed without having recourse to the more active remedies usually resorted to: but unhappily this disease generally attacks children of the most robust habit of body, and if not immediately arrested, terminates in violent inflammation, accompanied with fever, which are only to be removed by the most prompt and decisive practice. In cases of this sort, to trust to the prescriptions ordinarily directed for the removal of the most violent spasmodic affections, is to do nothing; it is worse than nothing; for while the physician temporises, the child perishes. Many lives, I believe with Dr. Ferriar, "have been sacrificed to the imaginary powers of assafœtida, or small repeated doses of antimonials, from unfounded theories of spasmodic constriction attending the disease."*

Dr. Cullen observes, that the antiphlogistic regimen is necessary in every stage of the disease, and that he has not found antispasmodic medicines of any use. It is, therefore, most safe for us to consider with Dr. Rush, that all the varieties which this disease assumes, "are the effects of a difference only in its force or in its duration," and, to continue to use the language of that accurate clinical observer, that "they all depend upon one remote and one proximate cause." It also fortunately happens, that the practice which is found most effectual in inflammatory croup, is not opposed to that which would be indicated if the disease were exclusively spasmodic; on the contrary, the remedies found most useful in counteracting inflammation, are also among the most powerful antispasmodics. This leads me to add some further remarks on the

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* Med. Hist. and Reflec. vol. 3. p. 210.

TREATMENT OF CROUP.

Writers upon this subject differ as widely as they do about the nature or character of the disease; but none, in my opinion, appear to have sufficiently discriminated between the different stages, in which the remedies they severally recommend ought to be employed; even Dr. Cheyne's late valuable work, and which contains the best pathology of this disease, is in some degree defective in this respect. I have been led at the bed side to distinguish *three* distinct stages in croup: the first may be denominated the *forming stage* of the disease; in this the affection is local; the irritation has not yet extended to the whole system; the child even sits laughing and playing upon the lap of its mother, manifesting a very unusual but morbid degree of exhilaration; its skin is cool and moist, its pulse not perceptibly accelerated; but its hoarse, hollow sounding, and frequently returning cough, its wheezing inspiration, its restlessness, and especially its cries after a fit of coughing, all denote to the physician and parent acquainted with the disease, the consequences that will soon ensue, if active means be not employed to prevent the *second*, or *febrile stage*. In this stage the whole system partakes of the irritation; the pulse is frequent, the skin hot and dry, the respiration hurried, the tongue covered with the usual white fur indicative of inflammation, the lips and cheeks remarkably florid, the cough frequent, but attended with a more acute sound than that of the first stage; every inspiration too is attended with more uniform wheezing than that which appears in the first, when occasionally an interval occurs in which the child breathes as if in health. But in this second stage no such interval is perceived; the trachea, bronchiæ and lungs become so surcharged by the circulating fluids, that the child has not even a momentary relief from its oppression; and in a short time, if left to itself, especially if the patient be plethoric, the countenance exhibits a purple, livid colour, not unlike that of apoplexy, and is even attended with a degree of stupor, or propensity to sleep. This loaded state of the lungs and interruption to the free return of blood from the head I have frequently witnessed in this stage of croup: if the patient be now neglected, or the evacuations be sparing and insufficient, an effusion from the exhalent vessels opening into the windpipe, bronchiæ, and surface of the lungs, inevitably takes place. In the two former, the effused matter assumes a membranous appearance, probably owing to the forcible passing and repassing of the air through those preternaturally constricted tubes; but in the lungs themselves it appears in the form of a viscid fluid, partly resembling both phlegm and pus. When this effusion has actually taken place, the febrile symptoms sensibly abate, and sometimes disappear altogether; the child is also apparently free from pain, but it suffers violent paroxysms of cough and difficult breathing, attended with an irregular and spasmodic respiration, as in asthma, or dropsy of the chest, and with similar intervals of ease. These paroxysms, in young children, continue but a few hours before dissolution. But in children arrived at eight or ten years of age, they frequently continue several days. A daughter of Gen. Morton, whom I saw in consultation, continued to struggle with those painful paroxysms at least four or five days after the febrile stage had terminated, and the effusion of matter, constituting the membrane, was supposed to have taken place. In some cases the impediment to inspiration, and the distress attending the paroxysms are so great, that the only position in which the patient can respire, is with the head thrown back. In this situation the trachea is extended, and thereby its capacity increased, and adapted to the membrane which it encloses. In some instances before death, general convulsions ensue, which speedily terminate the sufferings of the patient. This stage, in which the membranous effusion takes place, I denominate the *membranous*, or *purulent stage:* from this advanced state of the disease recovery is so rare, that it is not to be expected; it might almost be denominated the *fatal* stage of croup. These distinctions it is, in my opinion, important for the practitioner to keep in view, as they lead to important conclusions in practice.

They teach us during the first or forming stage of this disease to adopt the most active means of restoring the suppressed secretions of the trachea and surface of the lungs, and by open bowels and perspiration to guard against the general excitement of the system. For this purpose, when called to a patient labouring under the first symptoms in which the disease appears to be confined to the parts primarily affected, it is my practice to administer an emetic composed of tartarized antimony and ipecacuanha: to a child under two years of age I direct from one to two grains of the emetic tartar, with from five to ten grains of ipecacuanha every fifteen minutes, until it operates to such a degree as to induce a plentiful secretion from the trachea and lungs. It is surprising, in some instances in this disease, to see the immense quantity of viscid, ropy phlegm discharged by the operation of an active emetic at this period of the complaint; but when this discharge has been accomplished, and the cough has become loose, which is an evidence of the natural secretion being restored upon the surface of the parts affected, we may, in most cases, consider the patient secure from danger.

It is usual with many physicians, upon these occasions, to administer large quantities of warm water to the patient, under the operation of an emetic: this practice, in my opinion, by washing the medicine out of the stomach, and diluting it, diminishes the nausea and general relaxation which it otherwise produces, and upon which its beneficial effects in a great degree depend. When the emetic has no other effect than to produce vomiting, I immediately direct the bowels to be emptied by the common domestic injection, and a dose of calomel from five to ten grains to be given, unless the child may be completely relieved; for it frequently happens that an emetic alone, by restoring the excretions from the windpipe and lungs, and the other evacuations by perspiration and stool which it creates, affords immediate relief, especially if the physician be called early in the disease.

The same result is thus noticed by Dr. Rush, in his excellent practical remarks on cynanche trachealis:

" In the forming state of this disease, which may be easily known by a hoarseness, and a slight degree of stertorous cough, a puke of antimonial wine, tartar emetic, ipecacuanha, or oxymel of squills,* is for the most part an immediate cure. To be effectual, it should operate four or five times. Happily children are seldom injured by a little excess in the operation of this class of medicines. I have prevented the formation of this disease many hundred times, and frequently in my own family, by means of this remedy."†

But it too frequently happens, that many of the common family prescriptions are in the first instance employed, and much valuable time lost before the physician is called upon; in that case, if the febrile symptoms have already manifested themselves, other remedies are indicated. In this second stage of croup, such is the determination of the circulating fluids to the part affected, and such the general febrile excitement of the system, that the most efficient means of diminishing the plethora of the blood vessels, and of diverting the irritation from the part affected, become necessary. With this view, the patient should be bled freely, in proportion to its age and powers of constitution; say for a child under two years, from two to four ounces; from two to six years, from four to six or eight ounces, and to be repeated as the urgency of the symptoms may require. Most writers recommend the blood to be taken from the jugular veins: as I have never, even in the youngest children, experienced any difficulty in opening a vein upon the back of the hand, and of drawing a sufficient quantity of blood from that part, especially after immersing the hand a short time in warm water, I have never had occasion to open a vein in the neck ; and as the child is generally very restless in this disease, and there is on this account more hazard in opening one of the jugular veins than those on the back of the hand, I have uniformly preferred the latter. It is also preferable on other accounts : it is difficult to ascertain the quantity of blood drawn from the jugular ; the vein cannot be so readily closed, and the orifice is apt to open afresh by a violent fit of coughing. I confess I read with surprise the observation of Dr. Cheyne, that it is difficult to procure a sufficient quantity of blood from any other than the jugular vein. Dr. Ferriar makes a similar remark, " that in the case of very young children, we must almost despair, for it is extremely difficult to procure any blood from them by the lancet." These difficulties I have never experienced ; the vein on the back of the hand, even in children six weeks old, being always perceptible to the finger, if not to the eye.

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* As the operation of the squills is very much limited to the stomach, and does not produce the same general relaxing effects upon the whole system that are produced by antimony and ipecacuanha, and having frequently been altogether disappointed in the emetic effects of it, I have totally abandoned the use of this medicine in the first stages of this disease.

† See Med. Inq. and Obs. vol. 2. p. 377. 3d edit. 1809. Philad.

Although I am not an advocate for small bleedings in croup, let me here take occasion to express my disapprobation of the practice of some physicians, especially that recommended by the late Dr. Bayley, of this city, Dr. Ferriar, of Manchester, and Dr. Dick, of Alexandria ;* I mean that of bleeding the patient until fainting be induced. The relaxing effects of blood-letting upon the system are no doubt desirable in this complaint, and were probably the objects which the advocates of this mode of treatment had in view ; but having observed in some instances, very serious and permanent evils to the constitution, occasioned by the debility which this profuse evacuation had produced, and knowing that even the most violent attacks of croup will yield to a less excessive evacuation by the lancet, when conjoined with other remedies, I have hitherto objected to this practice in the extent it has been recommended. After blood-letting generally some partial relief is immediately obtained; respiration is less frequent; the peculiar noise of inspiration is also diminished; the cough becomes more loose and yielding; the skin is rendered moist, and the pulse less tense and frequent. But these favourable symptoms are oftentimes deceptive, and of short duration: the cough, laboured respiration, and heat of skin, are perhaps all renewed in the course of an hour. In that case the antimonial emetic must be immediately employed. Although the force of the disease may have been greatly subdued by blood-letting, the alarming symptoms so frequently return that I am now in the constant practice of prescribing the emetic immediately after blood-letting has been performed, without waiting to ascertain the effects which the bleeding alone might produce; if, however, after the operation of the emetic, the symptoms still continue violent, I usually repeat the bleeding, immerse the patient in a warm bath, apply a large blister to the throat covering the larynx and trachea, and administer a cathartic of calomel, from five to ten grains,* repeat-ing this medicine every two hours, until it produces some sensible effect in this respect, at the same time soliciting its operation upon the bowels by injections occasionally administered.

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* See 3d Supplement to Dr. Barton's Med. and Physical Journal, for May, 1809. p. 242.

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* Such is the efficacy of calomel in the treatment of croup, that some practitioners place their chief dependence upon it in every stage of this disease, even in its most violent forms. Dr. Stearns, of Albany, a physician of great reputation, and who is said to have been singularly successful in the cure of croup, prescribes it in connec-

These several remedies having been employed, and having failed completely to subdue the febrile symptoms, and to divert the irritation from the trachea and lungs, I next direct small doses of calomel and James' powder, from two to five grains of each, to be given every two hours to a child under four years of age; but when sufficient evacuation from the bowels may have been procured, I frequently prescribe the antimonial wine, or a solution of tartar emetic, in such doses as to excite a considerable degree of nausea and relaxation; with these I occasionally blend a small portion of laudanum, where it may be indicated either in consequence of the profuse evacuation by the bowels, or

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tion with the cerated glass of antimony, at the same time administering a decoction of the seneka snake-root, (*polygala senega*): for a child of a year old, when the disease has assumed its most alarming symptoms, he directs 20 grs. of calomel with 8 grs. of the cerated glass of antimony; for a child of two years of age, the dose is increased to 25 or 30 grs. of calomel, with a proportionate increase of antimony. This combination, Dr. Stearns observes, generally operates two or three times as an emetic, and as often by stool; but if the disorder continues after the operation of this dose, he gives the decoction of seneka, and at the expiration of every eight hours repeats the dose of the calomel and antimony, until the cure is complete. In common cases he remarks, that one dose is sufficient, and that he has never found it necessary to give more than four. Dr. Stearns, considering croup to arise from a torpor in the absorbents of the trachea, and not primarily an inflammatory affection, disapproves of blood-letting, "as a very hazardous remedy, and which ought never to be prescribed in simple cases of croup."*

* See Coxe's Med. Museum, vol. 5. p. 195.

when the cough may be very harassing to the patient, which is sometimes the case when the febrile symptoms are greatly moderated; in other respects laudanum should be administered with great caution in this disease.

The physician is sometimes called upon at a late period of the disease, where the means which have been described have not been employed; or if they have been, may not have succeeded, and in which the third stage of the disease has become apparent. Respiration, as in the two preceding stages, is still laborious, accompanied with the same wheezing noise upon every inspiration; the cough also continues violent, without the least expectoration, and returns in paroxysms, in which the patient is threatened with immediate suffocation; the countenance exhibits a blueish livid appearance, at the same time that the patient manifests the greatest anxiety and distress; occasionally, however, it has intervals of ease, in which its sufferings are apparently inconsiderable; but these intervals are of short duration, and afford no prospect of relief, for the effusion before mentioned, and the consequent formation of a membranous matter lining the trachea and bronchiæ, has already taken place. In this stage of the disease, it has occasionally happened that portions of the membrane have been thrown off by coughing, by which the patient has happily been preserved. Two cases of this kind are related by Dr. Home, (p. 53. 54.) which have induced him to hope that "art, though not in the way of internal medicine, may attempt effectuating the same end."

But although nearly fifty years have elapsed since the publication of Dr. Home's treatise, in which this suggestion is contained, we do not learn that in a single well authenticated case the operation of opening the trachea has been successfully performed; and when we recollect what has already been stated, that the disease is not limited to the trachea, that the inflammation and effusion of matter are spread over the greater part of the surface of the lungs, that the membrane itself frequently extends below the division of the trachea, the inference is plain that even if the membrane alone could be detached, it would still be doubtful how far the disease would be removed by the operation. In one case related by Dr. Home, "part of the membrane was thrown up, yet the patient died." (p. 53.) But although it were certain that the membrane was confined to the trachea alone, such must be the difficulty of detaching it from its connection, and such the embarrassments, from the restlessness of the child, the constant movement of the larynx in respiration, the discharge of blood, &c. that must necessarily attend an operation of this sort, that I should be inclined to rest the whole hopes of relief, even in this advanced stage of the disease, upon the use of internal medicines.

Calomel, in small but repeated doses, squills, the syrup of onions, the seneka snake-root, ammoniac, and assafœtida, and the vapour of vinegar and water, are the medicines upon which I am inclined to place most reliance at this advanced period of croup. As they are a class of remedies calculated to excite the secretion from the lungs, without impairing the general powers of the system, they afford, if steadily persisted in, the best means of loosening and of ejecting the membranous matter, as well as the fluid materials effused over the surface of the lungs.

The following case, related by Dr. Rush, of the good effects of calomel in the advanced stage of croup, should incite us to the diligent use of this remedy, even after the effusion of the matter constituting the membrane has been ascertained to have taken place. The doctor observes, "I once attended a man from Virginia of the name of Bampfield, who, after an attack of this disease, was much distressed with the stertorous breathing and cough, which belong to it; I suspected both to arise from a membrane formed by inflammation in his trachea. This membrane I supposed to be in part detached from the trachea, from the rattling noise which attended his breathing. He had used many remedies for it to no purpose. I advised a salivation, which in less than three weeks perfectly cured him."*

But these stimulant remedies, excepting calomel, the use of which, in the first stages of croup, has already been noticed, should, in my opinion, be confined to the third stage of this disease. Many families in this city, and some physicians too, are in habits of prescribing the syrup of onions in all stages of croup, without discrimination. So powerful a stimulant cannot certainly be administered with safety where blood-letting and other means of reducing the increased excitement of the system are indicated. Dr. Archer, of Maryland, has rendered an important service to medicine by introducing into general use the polygala senega, as a remedy in croup. Hitherto, however, it has certainly disappointed the expectations of most practitioners, because it has been prescribed indiscriminately in every stage of the disease; whereas, for the very reason that it is so useful in exciting the vessels of the trachea and lungs to a powerful excretion of the materials oppressing them in the last stage of croup, it is certainly a hazardous prescription when those organs are preternaturally excited, as they are both in the forming and febrile stages of this disease. Lest you may not have seen Dr. Archer's treatise, I subjoin his formula for preparing and administering this medicine: he observes,

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* Med. Inq. and Obs. vol. 2. p. 380.

"The decoction of the root is the manner in which I have generally seen it used; the strength must be determined by the physician: it must be so strong, as to act sensibly on his own fauces, in exciting coughing, &c. Half an ounce of the root of seneka, bruised and simmered in a close vessel in half a pint of water, until reduced to four ounces, will probably in most cases be sufficiently strong. A teaspoonful of this to be given every half hour or hour, as the urgency of the symptoms may demand; and during these intervals a few drops occasionally, to keep up a sensible action of the medicine in the fauces, until it acts as an emetic or cathartic; then repeated in small quantities, and so frequently, as to keep up a constant stimulus in the mouth and throat." (p. 33, 34.) "The powder," he adds, "has lately been used in doses of four or five grains, mixed in a little water, with effects equally pleasing as the decoction."

For the same reason that stimulant remedies are thus indicated, blood-letting, emetics, the warm bath, and such other medicines as relax and debilitate the system, and which were indicated during the two first stages, ought in this to be prohibited; for in this debilitated state of the system they not only diminish the power of secretion, but of ejecting the matter secreted. If circumstances, however, should indicate an emetic in this stage of the disease, and the decoction of seneka should prove insufficient, the sulphate of zinc or copper is certainly preferable to that of antimony or ipecacuanha, the former being less debilitating, while they afford all the advantage which can be obtained from the mechanical operation of vomiting, and which is all that can be desired at this advanced period of the disease; at this time it is also necessary to sustain the strength of the patient by more nutritious food than is proper in the first stages; a cup of sago, arrow root, chicken soup, or weak wine whey, are now indicated; but the latter should be carefully abstained from during the inflammatory stages of this disease, when the patient should be confined to such drinks and nourishment as are least calculated to excite the system. Seeing then, that so little remains to be done in this third stage of croup, we are taught the importance of very active treatment during the first and second stages of this disease.

As you have had an opportunity, during the prosecution of your medical studies in this city, of witnessing the practice I have recommended, you can bear testimony to its success in those cases in which advice is called for in the commencement of the disease. Candour, however, obliges me to acknowledge, that in the course of my practice I have lost two patients in this complaint: the one in the month of September, 1797, a child of Mr. Nexsen; the other, in April, 1808, a child of Mr. Herman Hendricks of this city. Generally speaking, I consider croup in its early stage as much under the controul of the remedies which have been enumerated, as a pleurisy or any other inflammatory disease. But as Dr. Ferriar justly remarks, "if the alarming symptoms are not mitigated during the first six hours, the disease will generally prove fatal."*

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* Med. Hist. and Reflec. vol. 3. p. 203.

If the view I have taken of this interesting subject may have any claims to your attention, or be found of importance in the treatment of croup, it will afford me pleasure that I have endeavoured to comply with your request.

I am, Dear Sir, with great regard,
Yours, &c.
DAVID HOSACK.

Dr. DELILE.

Dr. Mitchill's description of his own Case of Croup.

New-York, August 23, 1810.

DEAR SIR,

IN answer to the queries proposed in your letter of the 20th instant, concerning the occurrence of croup in adult persons, I offer you a brief account of my own case. I regret that some notice of it, in the newspapers of the day, cannot now be found.

In the spring of the year 1801 I suffered a violent attack of a disease in the trachea, which I have no hesitation to call croup. I am not conscious of any particular exposure or accident that brought it on. Its commencement was more like catarrh than any other disorder. In its progress, there was an extraordinary secretion of slime. Very little of this came from the pharynx, fauces, or posterior nares. It proceeded from the glottis, larynx, and trachea. Scarcely any portion of it was secreted below the entrance of the latter into the thorax. The quantity was excessive. It might almost be imagined that all the fluids of my body had rushed, with one onset, to these parts. The toughness of the phlegm rendered it very difficult for me to dislodge it. There was in it a manifest tendency to thicken and concrete. This disposition might have been increased by absorption and evaporation.

Though the mucus of this tenacious quality was so profusely poured out, there was no great irritation in the parts which it inundated. By this I mean, that I was not under any necessity to cough constantly. Had there been no other evacuation than that arising from the *involuntary* action of the diseased organ, I must very soon have been suffocated. The fluids would have accumulated and thickened, and eventually it might have been impossible for me to have cleared away the adhesive and inspissated mass.

The exercise of my will, alone, saved me from a stoppage of my breathing. Knowing the consequences of a stagnation and concretion of the fluids in the windpipe, I exerted myself, with all my powers, to keep the passage open. My efforts to hawk were exceedingly laborious, and almost incessant. The quantity voided by spitting was enormous. By calling into action all the muscles over which I had any volition, I promoted the discharge. I have no doubt that by practice I acquired the power of making the muscles co-operate more exactly in dislodging the secretion; and I aided the internal voluntary efforts by the application of my fingers to the outside of the assailed parts; by a well directed pressure, the mucus adhering to the inside of the trachea and larynx was brought more within the current of the expelled air, and was in greater quantity expelled with it. I withheld an epispastic, because I thought it would interrupt the use of the laryngeal muscles, and at the same time prevent the employment of my fingers. I am the more inclined to suppose my disease the croup, inasmuch as I had no soreness nor swelling of my throat, nor was I sensible either of the chills or heats of a fever; my lungs were not oppressed with inflammatory action, and my breathing, as far as the moving powers of the chest and the action of the lungs themselves were concerned, was performed as freely as ever.

The remedies which I employed in so formidable a disease were few. I had the aid of cathartics; I rigidly abstained from all manner of food and drink, until my symptoms abated. I was bled once from the arm by my friend, Dr. V. Seaman. But my principal dependance was placed on the excretion of the overflowing humors, under the direction of my will; and, without this, I do not know how I could have lived many hours. Had an infant, a child, or any person unable to have cleared the larynx, been seized as rudely as I was, death must have ensued, after a series of symptoms which almost every practitioner would have ascribed to cynanche trachealis. This disease has a name more significant and appropriate than usual; for it is really, as its generic and specific terms import, a malady "*which* kills by strangling, or intercepting the passage of the air to and from the lungs through the windpipe." The reason therefore is apparent wherefore grown persons are not more frequently the victims of croup. They relieve themselves by hawking and spitting, and partly also by coughing and raising; and if infants and children could detach the tenacious fluids in the same way, there would be fewer instances of mortality among them. This is fully confirmed by the recoveries which happen in consequence of sometimes dislodging the secreted substance, even after it has acquired the firmness of a membrane.

It appears to me from the observations I have made on croup, that adults have no exemption from it; they suffer the disease more frequently than is generally supposed; but among this class of patients the fatal termination is more rare, on account of their ability to extricate from the trachea its morbid lining. Notwithstanding which, there occurs now and then a case, wherein, from a want probably of expectorating power, the croup destroys even adults. Hence we understand how the disease, which in an individual of tender age might be croup, is in a person of advanced years generally denominated a cold, and confounded with the diversified forms of catarrh.

This sentiment I had entertained from my own observations and sufferings, before you suggested to me that it had been countenanced by Michaelis. Though I remember that gentleman, I had no recollection of the passage in his dissertation on the membranous or polypose angina, which ascribes the greater *fatality* of the croup in children to their inability to throw off the secreted fluid, and attributes greater *frequency* of it to adults than is generally believed, the latter excreting it before it forms a film or membrane.

This disease, as it occurs in children, and progresses from bad to worse, through all its stages, presents, as you know, a most afflicting spectacle. I shall never forget the incipient hoarseness, the sonorous wheezing, the playful intervals, the distressful croaking, the suffocating anguish, and the premature death of Robert, the fifth son of my most excellent mother, who, at the age of five years, was overpowered by the accumulation of fluids in the trachea, too viscid for him to bring up.

Wishing you success in your investigation, I remain, with much esteem and regard, your's,

SAM. L. MITCHILL.

To Dr. DAVID HOSACK.

REVIEW.

Art. I. *An* Essay *on the Varieties of Complexion and Figure in the* Human Species: *by the Rev.* Samuel Stanhope Smith, D. D. L. L. D. *President of the College of New-Jersey, and Fellow of the American Philosophical Society, &c. &c.* 2d edit. J. Simpson and Co. New-Brunswick, S. Whiting and Co. New-York. 1810.

The learned author of this essay submitted to the public a disquisition on this subject, held before the American Philosophical Society, in Philadelphia, in the year 1787. This work was well received both in Europe and America, and an edition of it was published in Great Britain, with additional notes, which is quoted with great respect by the editors of the British Encyclopedia. The present work contains a more extensive elucidation of the same principles, supporting them by a more ample collection of facts, drawn from the general history of the human species, and, in many instances, from the physiology of other animal natures. This we think, has been accomplished in a manner that must prove satisfactory to every genuine lover of physical truth. Our first conclusions, on a superficial inspection of nations who differ most widely from one another, both in corporeal and mental attributes, would probably be unfavourable to the idea of the unity of the human species. But when we recollect the various changes which the animal, as well as the vegetable tribes, are seen to undergo by the influence of climate, soil, and culture, we perceive the propriety of subjecting the question to a new and more deliberate examination.

The author, before proceeding directly to the illustration of the physical and moral causes, from the operation of which he derives the principal varieties of mankind, makes some preliminary observations in order to strengthen, by speculative probabilities, the practical argument from fact by which he afterwards confirms the unity of the species. "Different species," says he, "must be subject to different laws, both in the physical and the moral constitution of their nature. The whole philosophy of man, therefore, is confounded by that hypothesis which divides the *kind* into various *species* radically different from one another. The laws of morals, designed to regulate the mutual intercourse of mankind, we derive from examining our own nature, or collecting the common sentiments of men in society, united together by a common system of feelings and ideas. But how shall we apply rules derived from these sources to different nations, and to different individuals whose moral principles, resulting, in like manner, from the constitution of their natures respectively, may be as various as their several aspects? *Varieties* may be created in the same species, either in the animal or vegetable kingdom, by varying their culture, and sometimes, by transferring them to a different soil or climate: but to all such varieties, where there is no radical diversity of *kind*, the same general laws will apply. To man, in like manner, may be applied the same general principles of moral and physical action, if it be ascertained that, amidst all their differences, there exists only one original species. But, destroy this unity, and no certain and universal principles of human nature remain." *Essay*, p. 11, 12.

The author, in the next place, very reasonably demands of those who maintain that there are different species of men, to point out their distinctive properties. "By what criterion," he asks, "shall we distinguish them? What is their number? Where do they now exist pure and unmixed? Philosophers," he remarks, "have never been able to give to these questions such precise and definite solutions as are sufficient to satisfy an inquisitive and discriminating mind." p. 12, 13. To assume the existence of different species, therefore, he justly concludes to be contrary to the principles of true science.

Dr. Smith next combats the doctrine of the primeval and absolute savagism of all the tribes of mankind. This opinion, which is generally connected with the denial of the identity of the human species, was, probably, derived to the philosophers from the Grecian poets, the primitive masters of western science, who took their type of the first men from the aboriginal savages of their own country. It was the natural offspring of that contingent, fatal, or physical origin from heat and moisture, which they ascribed to the human race, as well as to other animal natures. President Smith maintains that this absolute and deplorable state of savagism, of which there is no example among the rudest tribes of the earth, is not only contrary to the most authentic monuments that remain to us of ancient history; but is hardly to be reconciled with the present existence of the arts, as we see them established in civilized nations, or even the existence of man. Many of the reflections on this subject will recommend themselves to the reader by their originality, not less than by their justice.

"All the earliest monuments of nations, as far as we can trace them, fix their origin about the middle regions of Asia, and present man to us in a state already civilized. From this center we perceive the radiations of the race gradually shooting themselves towards every quarter of the globe." p. 16, 17. But on the supposition of that state of savagism described by the philosophers and poets just mentioned, and which, if we reject the ideas of revelation, is the only real picture of man sprung from the recent earth by accident, or by the necessary laws of physical attraction and combination, Dr. Smith continues, "Hardly is it possible that *such* a man, placed on the surface of the new world, in the midst of its forests and its marshes, capable of reason indeed, but without having formed any principles to direct its exercise, should have been able to preserve his existence." p. 17. "Nature has furnished the inferior animals with many and powerful instincts to direct them in the choice of their food, and with natural instruments peculiarly adapted to enable them, either by climbing the forest tree for its fruits, or by digging in the earth for nutritious roots, to obtain it in sufficient quantities for the sustenance of life; but man, destitute of the nice and accurate instincts of other animals, as well as of the effectual means which they possess of procuring their provision, must have been the most forlorn of all creatures, although destined to be lord of the creation, unless we suppose him, like the primitive man of the sacred scriptures, placed in a rich garden, which offered him, at hand, its abundant and spontaneous fruits. Cast out, an orphan of nature, naked and helpless, into the savage forest, he must have perished before he could have learned how to supply his most immediate wants." p. 18. Again, "Reason, the supreme prerogative of our nature, and its chief distinction from that of the inferior animals, could have availed him little in that emergency. It would have required, in order to its exercise, a knowledge of principles and of the nature of the objects around him, which could have been the result only of time, and a certain degree of experience. In the mean time, that recent mass of organized matter, called a man, would probably have perished." p. 19. Here the doctor draws a proper contrast between this helpless being and the savage tribes with which we are acquainted, and particularly the aboriginals of America, who have inherited by tradition a knowledge of all the most necessary arts for the sustenance of human life in their rude condition. He next proceeds to argue, with great plausibility of reasoning, that, from such an origin given to the human race, or rather, to those indefinite species of men implied in the foregoing supposition, never could have sprung the liberal or the useful arts, as we see them now existing in civilized nations.

"If we can believe that, in this deplorable condition, they could have found means to sustain life, man, originally a savage, and a savage in the most abject state in which it is possible for human nature to exist, must have remained a savage forever. Urged by the most pressing wants of nature, for which all his exertions, undirected by skill, and unassisted by the natural arms which other creatures possess, could have furnished but a scanty supply, and which therefore, would have never ceased one moment to harrass him ; he would not have enjoyed leisure to invent any of those arts which enter into the first elements of civilized life. An importunate appetite, with brutal impulse, would have so continually precipitated him from object to object, in order to gratify its cravings, that he could have redeemed no portion of his time for contemplating the powers of nature, or for combining his observations in such a manner, as to apply those powers in ingenious inventions for anticipating his wants, or for facilitating their supply. If he could indulge a moment's repose from the importunity of hunger, it would be to resign the next moment to absolute inaction, like a satiated beast in his den. The character of a savage is infinitely improvident. Nothing he abhors so much as labour when he is not under the immediate impulse of some imperious appetite, or passion." p. 21, 22.

The indolent and contented genius of savagism, the doctor asserts, sinks in profound stupor every desire after improvement: it obstinately resists every effort to introduce from abroad those useful arts which require either labour or reflection. The American savage possesses many advantages, derived from a remote ancestry, above that primitive man whom we are contemplating, yet hardly has the example or influence of the most cultivated nations in the world, been able, during three centuries, to induce him to advance a single step in the amelioration of his state.

"If such (continues the learned President) is the genius and character of savagism, as it appears in the aboriginal tribes of America, how much farther removed from the first elements of civilization must have been those primitive species of men contemplated by this hypothesis.

Qui prorepserunt primis animalia terris
Mutum et turpe pecus, glandem atque cubilia propter
Unguibus et pugnis pugnantia?

Compared with such beings the American indian may be considered as an artist and a sage. Compared with their hands the only instruments afforded them by nature to dig into the earth for a miserable subsistence, the bow and the hook may be regarded as high and noble inventions. By such men, impelled by incessant and importunate wants, in which they could enjoy no leisure for meditation, no composure for reflection, and brutalized in all their faculties and tastes, it would have been impossible that one principle of science should ever have been discovered, or one liberal art ever have been invented. The existence of civilized society in the world is a proof that man was never in such an abject state. Besides, uncivilized man is a lazy, improvident, and filthy animal. If he has food for the present day, nothing is able to rouse him to industry. Contented, and even pleased with filth, because in that state he feels himself more at ease, for even the attentions of cleanliness are a constraint to a savage, he feels no motive to desire any accommodation beyond what he is compelled by necessity to seek. Men, with such dispositions, will be forever stationary. Nothing but the controling influence of some civilized power, could even induce a savage to wield a spade, or guide a plough. And all the ages of time would not be sufficient to teach him to separate from the ore, and to prepare, the metal from which those instruments are made." p. 25, 26, 27.

But lastly, his argument against those writers who, denying the identity of the human race, would derive their unknown and innumerable species from certain "*equivocal power of generation*, resulting from the united action of moisture and heat on the primitive mass of the world, not yet perfectly redeemed from chaos, nor drained of its waters," appears to be decisive. "On the supposition of this power of *equivocal generation*, if, indeed, it had any support in the order of nature, these philosophers might find, in the slime of the recent earth, as many species of men, as there are of insects generated, according to their philosophy, from the same cause in a stagnant morass. But, can the patrons of this extraordinary system explain the reason why nature has never made but one such effort? Why have we never, since that first generative act, found in the most extensive morasses, even in the torrid zone, one newly formed man; nor even one limb, or outline of a man, just shooting from the moistened and heated earth, like crystals in a chemical process? Have not moisture and heat, and all the other elements of nature, the same properties still which they possessed in the beginning?" p. 30.

The author having gone through his preliminary observations concerning the identity of the race, concludes with this just remark:

"It is contrary to the laws of true philosophy to resort to the hypothesis of different original species of men, in order to explain varieties which can otherwise be accounted for from the known operation of natural causes. And if we can find, in the laws of nature, powers sufficient to impress on the ground of the same original constitution of man, all the varieties of complexion and form which have distinguished the race in different climes and states of society, it is a homage which we owe to philosophy, as well as to religion, to refer all the different nations of the earth to the same original stock. It is a debt which we owe to humanity to recognize our brethren in every class of men into which society is divided, and under every shade of complexion which diversifies their various tribes, from the equator to the poles."

When Dr. Smith comes to enter more directly on his principal subject, the general causes of the varieties which subsist among different portions of the human species, he reduces them to the heads of *Climate ; the state of Society ;* and *the Manner of living.* p. 35.

And first, with regard to Climate : "In tracing (says he) the various climates of the globe, advancing from the arctic circle to the equator, we find them marked, with considerable regularity, by the colour of the inhabitants. The same distance from the sun, however, does not, in every region, indicate the same temperature. Besides the latitude, many secondary causes are to be taken into consideration to determine the character of the climate." p. 37. Of these, perhaps the principal are the elevation or depression of the country, the nature of the soil, the vicinity and position of mountains or seas, and many other states of the land and water which serve to impregnate the atmosphere with various gases, salubrious or unhealthy, which are illustrated in the essay at considerable extent. The influence of the sun, in affecting the complexion, is rendered obvious by the changes produced in a delicate skin in the winter and the summer, when exposed to it without covering, in the hands of sea-faring men, and labouring people, and in men who make any permanent change of climate from north to south.

"We see even in our own climate, that the solar rays are able to penetrate the entire substance of the skin ; and when it is first exposed to them without covering, they dissolve its texture inflaming it, and raising it into blisters. This action of the sun tends not only to change its colour, but to incrassate its substance, till it becomes thick enough to resist any further alteration from their influence; when it assumes a hue, more or less dark, according to the power and continuance of the cause. The complexion of the African zone, therefore, in the greater portion of which the inhabitants are both savage in their manners and almost universally destitute of clothing, will naturally be as much deeper as the ardor of the sun, in those parched regions, is both more constant and intense than in the temperate latitudes, or even in other districts of the torrid zone." p. 50.

But Dr. Smith finds in the secretion of the bile in the human body, which is greatly augmented by extreme heat, by putrid miasmata in the atmosphere, by poverty of diet, excessive hardships and other causes, an agent not less powerful than this solar influence, in producing the dark colours of southern and savage nations.

On the immediate causes of colour, therefore, in mankind, he proceeds to state the following concatenation of facts and observations:

"1. The rays of the sun, when suffered to act immediately on the human skin, tend to produce a dark colour, although there should be no uncommon redundancy of bile in the constitution.

"2. On the other hand, redundancy of bile imparts a dark hue to the complexion of persons who have not, in any uocommon degree, been exposed to the direct action of the sun. Accordingly, we frequently see those who have been long affected, in different degrees, by an excess of this secretion, contract a hue resembling that of various dark coloured nations. [Of this, various examples are produced from different writers, and, among others, from Dr. Blumenbach, who observes, that the liver, the great laboratory of bile in the human constitution, is peculiarly affected by the temperature of tropical, and all very hot climates, and other causes naturally connected with these; and that there is a very great sympathy between the liver and the skin, both the one and the other being among the principal means provided by nature for purifying the mass of the blood.]

"3. Where both causes co-operate, as is the case in all fervid climates, the effect upon the complexion of the inhabitants must be greater in proportion to the influence of the respective causes.

"4. The human skin has been discovered by anatomists to consist of three distinct lamellæ, or integuments: the external, or scarf-skin, which is an extremely fine netting, and perfectly transparent in the darkest coloured nations; the interior, or true skin, which, in people of all the different grades of colour, is white; and an intermediate membrane, which is cellular, in its structure, somewhat like a honey-comb. This membrane is the proper seat of colour, being filled with a delicate mucus, or viscid liquor, which easily receives the lively tinge of the blood, when strongly propelled, by any cause, to the surface, or the duller stain of the bile, when it enters in any undue quantity into the circulation. The smallest surcharge of this secretion imparts to it a yellow appearance, which, by remaining long in contact with the atmosphere, assumes a darker hue, and, if exposed, at the same time, to the immediate influence of the sun, approaches, according to the heat of the climate, and the degree in which the bile prevails, towards black.

"5. The gall or bile of any animal, exposed to the sun and air, in a short time becomes black: a phenomenon which probably results from the great proportion of carbon which enters into its composition, and the evaporation which takes place in the open air of the hydrogen, or aqueous fluid with which it had been combined and diluted.

"6. When from any cause, therefore, the bilious secretion has been increased beyond its natural proportion, approaching the surface of the body, in the progress of the circulation, the carbonic matter of its composition becomes there attached to the viscid mucous in the cellular membrane of the skin, while the more thin and volatile hydrogen, with which it is combined, having a stronger affinity and attraction with the oxygen of the atmosphere, and flying off first, leaves it precipitated and entangled in those cells, where it stains and discolours the complexion.

"7. The bile itself is, perhaps, more liable than most other secretions in the human body, to become incrassated and mucous: at least, it is always copiously found in that state in the stomach and intestines of those persons who have been long subject to bilious disorders.

"8. The vapours arising from stagnant waters, with which uncultivated regions abound, great fatigues and hardships, poverty of diet, filthiness in the manner of living, tend, likewise, to create a surcharge of the bilious secretion. Hence, as well as from their nakedness and exposure to the unmitigated effect of the solar and atmospheric influence, savages will always be discoloured even in temperate or in cold climates, &c.

"9. Those who make great and sudden changes from northern to southern climates, are usually attacked by bilious disorders, which leave the blood impoverished, and shed a dark colour, tinged with a yellow appearance, over the skin. These disorders, proceeding from the climate, are probably only the efforts of nature in removing that tension of the system, which would render it liable to dangerous inflammatory fevers, and imparting to it that proportion of bile which is requisite to its safety, and its comfortable subsistence in its new situation." p. 52—60. [Here it is shewn that a certain proportion of bile, producing what is called a *bilious habit*, renders the constitution more tolerant of extreme heat.]

Dr. Smith, after having laid down these general principles on the causes of colour in the human species, proceeds to confirm his observations by a series of known and interesting facts. In the first place, by the regularity of what he calls *the complexional zones of the world*, which are marked by the gradual change of complexion as we descend from the higher temperate latitudes towards the equator; subject, however, to a variety of modifications, arising from the various combinations of heat and moisture, with other causes which are known to affect the temperature of the atmosphere, and the health and state of the body. Secondly, by the changes which are known to have passed on the same nation on being removed into different climates: which have been exemplified particularly in the Tartar tribes who have been transferred to Persia, or India; and in the Jews, who are infinitely diversified in their appearance, according to the climate in which they are found. And finally, by alterations in physiognomy and corporeal habit, which have taken place in the descendants of European colonists removed to America.

These subjects are treated with considerable minuteness and particularity; and, in our apprehension, with great perspicuity and justness of induction: to which are added several observations on the influence of climate on the colour of the inferior animals. p. 60—80.

The author proceeds to illustrate other varieties by which different portions of the race are distinguished. Among these the colour and form of the hair are among the most striking and obvious. "The colour of the hair," says the doctor, "generally follows the law of the complexion; because its roots, being planted in the skin, derive its nourishment and its colour from the same secretion, which there contributes principally to form the tint of that various covering of the body. Every gradation of shade in the skin is usually accompanied with some correspondent shades in the hair." p. 81. Many remarks follow on the fineness, density, and colour of this excrescence in different nations, well worthy the attention of the observer of nature. p. 81—88.

"That form of the hair which principally attracts our attention is the sparse, coarse, involved substance, like wool, which covers the head of the tropical African." Take the following specimen of the author's reasoning upon this subject:

> "The sparseness and coarseness of the African hair, or wool, is analogous to effects which we have already seen to be produced by the temperature of arid climates upon other animals. Its involution may be occasioned, in part, by the excessive heat of a vertical sun, acting upon sands which glow with an ardor unknown in any other quarter of the globe. But probably it is occasioned chiefly by the pe-

culiar quality of the secretion by which it is nourished. That the curl or nap of the hair depends in a great degree on this cause, is rendered the more probable by the appearance which it exhibits on the chin, over the armpits, and other parts of the human body. Whatever be the nutriment of the hair, it would seem, by the strong and offensive smell of the African negro, to be combined in him with some gas or fluid of a very volatile and ardent nature. The evaporation of such a gas, rendering the surface dry and disposed to contract, while the center continues distended, tends necessarily to produce an involution of the hair." p. 89, 90.

This train of reflection he endeavours to confirm from an opinion of Blumenbach, that *there is a strong sympathy between the liver, the laboratory of the bile, and the skin; and, as the influence of the climate upon the secreting powers of the former is very great, it is proportionally great on the action of the minute vessels of the latter, by which that matter is supplied to the reticular membrane, which becomes there the nutriment of the hair, and according to the qualities of this nutriment will the hair be affected in its colour and other properties.* With regard to the qualities of this nutriment, Dr. Smith adds, " certain volatile and saline secretions tend to curl the hair. Viscid and glutinous matters produce a like effect. The strong smell of the negro, however, seems to indicate the union of sulphur with hydrogen gas, or inflammable air, and perhaps with an unusual proportion of phosphorus." The offensive fetor of the African blacks, the doctor asserts, is diminished in their descendents in America; and, in the same degree, the close nap of their wool is beginning to be relaxed. These opinions and reasonings seem to receive decisive confirmation from the striking and unquestionable fact of a black man in the state of Maryland, who, some years ago, lost his black complexion, which was changed into a clear and healthy white; not a sickly and

Albino colour, but resembling that of an Anglo-American. As soon as the white complexion of the skin extended itself beneath the woolly substance on the head of this man, the wool disappeared, and was replaced by straight and soft hair. p. 90—95. This fact, which occurred to the doctor's own inspection, is preserved also in other respectable repositories and journals in this country. Several remarks are added on the heat of the climate and the savage manners of the people, as contributing to increase the effect, which are not unworthy the attention of the philosopher. p. 95—99.

The extreme of cold, as well as of heat, has a powerful influence on the human body; affecting its stature, the form of its limbs, and the features of the countenance.

These effects, especially as they are exhibited in the northern tribes of Asia and America, are traced with great particularity, and we think with accuracy and truth, in this essay, from page 100 to 110. When the author proceeds to assign the physical influences which concur in the production of the African countenance, he discovers equal nicety of observation. p. 111—117. In coincidence with a remark made by Mr. Volney on the same subject, he says, that "the countenance of the negroes represents precisely the state of contraction which our faces assume when strongly affected by heat, the eye brows are knit, the cheeks rise, the eye lids are drawn together, and the mouth pouts out. This state of contraction, to which the features are constantly exposed in the hot climates of the negroes, is become the peculiar characteristic of their countenance." To these the doctor might have added one cause of the wideness of the nostril, and consequent flatness of the feature of the nose in that race of men, which, though not less obvious than many other minute causes which have been justly touched by him, he appears to have omitted. In the extreme and suffocating heats which prevail in those regions, nature prompts to distend the nostrils in order to inhale as large a stream of air as possible. In this effort they are very much spread out at the sides, which induces a stricture across the cartilage of the nose that contributes to depress it, till it assumes that shape and aperture, which best corresponds with the necessities of the climate. At this point it would become fixed in the original inhabitants of that continent, and become the hereditary characteristic of the negro visage. This is the more probable, when we consider the wonderful effects which are often produced by the gentlest strictures, or pressures on particular parts of the human body, commenced from the tenderest state of the muscles, bones, or cartilages, and continued through life.

Many writers, who acknowledge that the soft and fleshy parts of the system are susceptible of great changes by the influences of climate, contend, that the bones, being infinitely more firm in their texture, and less liable to the impressions of external causes, contain more certain indications of diversity of species among different tribes. The arguments drawn from this source appear to us to have received a very satisfactory answer in the Essay. p. 120—122. But some of the doctor's remarks on the form of the skull are so original, as well as just, that we are induced to present them to the reader in his own words. After observing, that, in infancy and youth, before the bones have attained their firmest consistency, these solid substances are susceptible of considerable alterations in their figure from the operation of very minute causes, he proceeds:

"On the figure of the head particularly, besides the climatical influences, or the extraneous accidents to which it may be exposed, every action of every muscle affected, in any way, by the thoughts and passions of the mind, is calculated to make some impression. And although the separate impressions may be insensible, yet the accumulated result of an infinite number of the slightest touches becomes very perceptible in a long course of time. Nor is the softness of muscular action a sufficient objection against the reality of this fact. What can be softer in its action than a drop of water falling from the height of a few inches? Yet in time it will wear a cavity in the hardest marble. What can be more tender than the young herb just sprouting from the seed? Yet, although the earth that covers it may be pressed down and beaten hard, we see it, by the gentle impulses of its expanding fibres, and circulating juices, gradually swell, and, at length, break through the incumbent crust. Shall we deny, then, that the passions, which often strongly agitate the mind, nay, that each emotion, each thought, by affecting the muscles which give expression to the countenance, and varying their tension, and, consequently, their pressure on different parts of the bony base of the head, may also affect its figure? From these and similar facts, some great physiologists have imagined that the figure of the skull, with its various protuberances and indentations, affords a certain criterion by which to judge of the intellectual powers and moral dispositions of men.

"On this subject we may, perhaps, be justified in affirming, that the various strictures and relaxations of the muscles about the head, produced by the infinitely diversified actions of thought and passion, will, in time, leave certain impressions affecting the exterior form of the skull. At the same time, the brain, the immediate organ of all the emotions of the soul, will, by its dilations and contractions, contribute, in some degree, to mould the interior cavity in which it is embraced. On the other hand, the original figure of this receptacle of the brain, in different men, by giving it scope, in some, for a more ample expansion, and a freer action; or, in others, by compressing it in some parts of its orb, and thereby restricting the regularity or freedom of its motions, may affect the operations of the mind, and thus lay a foundation, in the organization and structure of the head, for the existence and display of particular intellectual or moral excellencies or defects. The original figure of the skull, therefore, may have an influence, not inconsiderable, on the developement and exercise of certain passions and affections of the mind, and on its peculiar powers of intellect or imagination; and, on the contrary, the habitual exercise of these powers, or indulgence of these passions, especially in the early periods of life, may reciprocally affect the figure even of that solid cell in which the brain, the immediate organ of the mental actions, is contained.

"From the preceding observations, if they are founded in nature and fact, we are fairly entitled to infer, that some climates, and some states of society and modes of living, by varying, in a less or greater degree, the form of the head, that organ which, by its figure, necessarily affects the operations of thought, are more or less favourable than others to certain exertions of the mental powers. And we may infer, further, that after a people have long cultivated science and the arts with success, or devoted themselves chiefly to certain occupations and pursuits, a greater general aptitude for those pursuits, or those arts, may become hereditary among their descendants, till other causes arise to change their manners." p. 122—126.

The author afterwards demonstrates by the example of several nations, that the same people, in consequence of changing their national seats, have, either by the force of the new climate, or by the gradual influence of new manners and habits of living, materially changed, not only their complexion and system of features, but the form of the head, and their whole person. He points out the artificial means which are employed by several tribes to vary the form of their children; and the effects of the early habits of the nation in some tribes, and the carelessness of nursing and attendance upon children in their infantile state. These, with the detection of many false relations of negligent or prejudiced travellers, occupy the principal portion of the Essay, from the 128th to the 148th page.

The author next proceeds to point out the various effects of different states of society and habits of living, in diversifying the aspect of mankind. The influence of these causes is exhibited with great variety of illustration, which will probably be still more interesting to the great mass of readers, than the subjects treated of in the former part, which are more remote from common observation. But the train, variety, and extent of this part of the work, would render a satisfactory analysis of it too diffusive to be conveniently embraced within the limits of the Register. We find, in the first place, the injurious influences of savage life, and the favourable effects of civilized habits and manners, upon the complexion and figure of the human race, pursued with great minuteness of investigation, and exhibited in the various grades in which they respectively exist, and the characters which they assume, in the different tribes of men, and regions of the world. p. 150—162. These are confirmed and elucidated by the various aspects which men exhibit in the different classes into which society is divided, and in the great diversity which is found to subsist between the domestic and the field slaves in the southern states of America. p. 163—170. Some remarks are also made on the change of countenance observed on a young Indian in the college of New-Jersey, which will be found to possess very considerable interest; as well as others, on the alterations that have taken place on Anglo-Americans, who have been taken captive in early life by the savages. p. 170—176.

"Under the head of the *state of society* (says Dr. Smith) are comprehended diet, clothing, lodging, manners, government, arts, religion, agricultural improvements, commercial pursuits, habits of thinking, and ideas of all kinds naturally arising out of this state, infinite in number and variety. If each of these causes be admitted to possess, as undoubtedly it does, a small influence in forming the character of the countenance, the different combinations and results of the whole must necessarily be great, and, united with the effects of climate, will afford sufficient principles on which to account for all the varieties that exist among mankind." p. 176, 177.

"Another cause, he observes, of the varieties arising out of the state of society, [a cause, we must remark, which has been little taken notice of by any other writer,] will be found in the power which men possess over themselves of producing considerable changes in their figure and appearance, according to any standard of beauty in the human person which they may have framed. Each nation differs from others, in many respects, in its ideas of personal beauty. Whatever be the standard which any people have formed to themselves, there is a general effort to attain, and it is pursued with more or less ardor and success, in proportion to the advantages which men possess in society, and to the estimation in which beauty is held."

"Of its effect in creating distinctions among nations in which different ideas of personal beauty prevail, and different means are employed to reach them, we may frame some conception from the differences which take place in the same nation, in which similar ideas exist, and similar means are used to form the person, only in various degrees. What a difference between the soft and elegant tints of complexion generally seen in women who move in the higher circles of society, and the coarse ruddiness of the vulgar; between the uncouth features and unpliant limbs of an unpolished rustic, and the complacency of countenance, the graceful figure, and easy air and movement of persons in cultivated life; between the shaped and meaning face of a well bred lady, and the soft and plump simplicity of a country girl! We now easily account for these varieties which have become familiar to the eye, because we see the operation of their causes. But if we should find an entire nation distinguished by a composition of features resembling the one, and another by the contrary, they would have as fair a title to be ranked under different species by certain philosophers as the German and the Tartar." p. 177—179.

Dr. Smith then remarks that the means employed by our own countrymen to form their persons after this ideal model, are, through the influence of custom, often little observed; but the means used by other nations, who aim at a different idea, attracting more attention by their novelty, will serve better to illustrate the influence of the principle.

Thence he proceeds to point out the various means which are employed by different nations, to form particular features according to their own peculiar notions of beauty. p. 179—190.

Some reflections are made, in the next place, on the influence of the state of society on the mental powers of nations, and their correspondent physiognomy, which well merit the attention of those who would thoroughly investigate the principles of human nature. p. 191—194.

The whole expression and physiognomy of savage life, especially as it is exhibited in the aboriginals of America, is, finally, presented to us, and forms a subject of curious speculation. p. 195—205.

The Essay is concluded with a very particular and, we think, satisfactory answer to the objections which seem to lie against the principles maintained in it, from the variety of complexion and aspect discovered in different regions of the torrid zone; and especially from that mixture of nations found to exist in India, and the numerous islands of the great Indian and Southern oceans. In this part of the work are many observations on the population of those islands, and on the original settlements of the American continent, which, to the greater part of readers, will be both novel and interesting. p. 206—245.

The remainder of the volume is filled up, first, with strictures on the disquisitions of Mr. Charles White, held before the philosophical society of Manchester, in England, on the anatomy of the African negro, endeavouring to demonstrate *a diversity of species between him and the man of Europe.* To which are added some remarks on the arguments of Mr. Jefferson, tending to prove the *natural inferiority of the intellect of negroes to that of the whites.*

To both these writers we think Dr. Smith has given decisive answers.

In the next place, he has given strictures on that part of Lord Kaimes' *history of man*, intended to bring in doubt the *identity of the human species.* His lordship's argument is, in these strictures, clearly and completely set aside.

Dr. Smith concludes his work with an historical and philosophical disquisition on the military character of the aboriginal tribes of North America, in answer to those writers who have imputed to them a pusillanimity, insensibility, and inhuman cruelty, which, in the opinion of these philosophers, discriminate them from other species of mankind. The *philosophy* of the Indian character, in these particulars, which have been imputed to them as the greatest reproach, will be found to contain much original observation; its history is built upon facts which have been long and generally known in America, though never before so distinctly narrated.

Upon taking our leave of the present volume, we shall only add, that, notwithstanding the various opinions which have been maintained on the several subjects of which it treats, Dr. Smith, in our opinion, has decided the question relative to the unity of the human species, and has permanently secured to himself a distinguished rank in the number of those who have nobly and successfully exerted themselves in illustrating the connection which subsists between genuine philosophy and revelation.

ART. II. *The Modern Practice of* PHYSIC, *&c. &c. by* ROBERT THOMAS, M. D. *With an* APPENDIX, *by* EDWARD MILLER, M. D. *Professor of the Practice of Physic in the University of New-York.* New-York. Collins and Perkins. 8vo. pp. 697. 1811.

ABOUT five years ago, Dr. Miller framed an elaborate report on the yellow fever of 1805, in which, it is understood, the whole strength of the doctrine of non-contagion was, for the first time, disclosed, and all its numerous arguments concentrated. This report was first published in a pamphlet form, and addressed to the governor of the state; next it was ushered to the world through the medium of one of our daily prints; it came forth a third time in the Edinburgh Medical Journal; and since that time the doctor has revised and improved it, and it is now again sent forth, in the shape of an Appendix to Dr. Thomas' Practice of Physic, with the view to remove all remaining medical heresy on the subject of contagion.

With Dr. Thomas' work we shall not, at this time, concern ourselves. The slight examination, which, only, we have been able to bestow upon it, leads us readily to coincide in the opinion expressed by Dr. Miller in the introduction to his appendix, that " it is executed with a degree of ability and judgment which reflects much honour on the talents of the author." It is also added, that " in Great Britain it stands so high in public estimation as to have passed through several editions within a short period." So popular a work then afforded the doctor an excellent opportunity of giving currency to the tenets held by the advocates for the domestic origin of yellow fever, and a co-extensive circulation of his own performance on that subject. We must however observe, that this method of seizing upon a branch of a particular subject, occupying less than two pages in a volume of seven hundred, and making it serve as a pretext for annexing to the work a heavy appendix, containing many gratuitous assertions, on which are founded doctrines and arguments in their support, in direct opposition to those entertained and expressed by the author himself, is a new method of giving currency to one's own opinions, by compelling another's assistance who holds them in abhorrence. The volume before us is thus so far perverted from the author's intentions, as that hereafter it is to circulate the mischievous doctrine of domestic origin, notwithstanding the author has taken some pains to manifest his reprobation of it. Let it be observed, that the appendix is not an answer to any thing advanced in the volume to which it is subjoined, but an independent, abstract essay, very improperly attached to the labours of one who dissents totally from all it contains. If this is encouraged, we shall next find Chisholm himself, by means of an artful appendix, become an advocate for the doctrine of domestic origin. How Dr. Miller can reconcile this treatment of Dr. Thomas with propriety, delicacy, and fair dealing, we shall leave to himself.

Considering the appendix in the important point of view before mentioned, our object is to subject the facts and arguments advanced in it to an impartial scrutiny.

Dr. Miller begins by "deprecating all personalities whenever the principles of science, especially of medical science, are undertaken to be examined." "Whatever regards the health and safety of mankind (he now seems to think) is too grave a subject to become the sport of passion, or the vehicle of invective and personality." We cannot too highly commend these sentiments, and have only to regret, on his own account, that they had never occurred to him before. During the thirteen years in which he has been employed in compiling and publishing the Medical Repository, what adversary has ever escaped those personalities here so much deprecated. If he has forgotten himself, we refer the doctor to his former volumes and hexades for the truth of this remark. Let him turn to the articles containing reviews of Haygarth and of Chisholm, as well as of those American writers who have had the misfortune to differ from him in opinion, and he will there see how freely he and his coadjutor have been accustomed to deal in the haughty rebuke, bitter sarcasm, or the taunting irony. And they were left to enjoy their triumph in silence ; for there was no rival work in which the injured could make their defence. But as we are now assured that all personalities will henceforth be discarded, we congratulate Dr. Miller on the resolution he has adopted, and sincerely rejoice at the information.

Dr. Miller divides his subject into various heads, under the form of questions ; the first of which is,

> " What are the causes and nature of the *yellow fever?*" This malignant disease (he says) has never been known to prevail except in tropical climates, or in those seasons of the more temperate climates in which the atmospheric heat has for some length of time been equal to the tropical heat, that is, at or about eighty degrees of Fahreinheit's thermometer." "There is no instance in the United States or in Europe of an epidemic yellow fever, except at these degrees of heat, nor of its long continuance after the atmosphere has been reduced to a much lower degree of temperature." " The primary and essential cause of the yellow fever is a *miasma* or *pernicious* exhalation floating in the atmosphere." " In order to produce these miasma, it is necessary that there should be a concurrence of heat, moisture, and a quantity of decaying animal and vegetable matter. It is therefore exhaled

by heat from low and moist grounds, overspread with the offals of animal and vegetable substances, from such substances collected in large masses, from any place where the process of putrefaction is going on to a considerable extent." "This exhalation is uniformly more frequent and virulent in sea port towns, in situations along sea coasts, in plains or near rivers, lakes, marshes, and swamps, or wherever stagnant waters are found, than in the interior high and mountainous districts of the country."

Such is Dr. Miller's theory as to what he calls the "*primary and essential* cause of yellow fever." To this, however, must be added, he says, "certain *secondary* or exciting causes," which are, "exposure to heat, fatigue, cold, dampness, intemperance, fear, anxiety," &c. We mean not to employ our time in opposing hypothesis to hypothesis, which, in the end, is generally found to terminate without satisfaction to either party concerned, and least of all that of the reader; but we mean to come, at once, to plain matter of fact, and on that alone we shall rely. We shall oppose facts to theory, and so long as we find ourselves armed with the former, we shall hold ourselves invulnerable, though Dr. Miller should continue to build speculation upon speculation, and to imagine cases to support them without end. To this test, then, let us now subject the foregoing extract.

Those who have lived in this city for the last ten years, and have taken notice of the different times and seasons when, and places where, the yellow fever has broken out and prevailed, on both sides the East-river, sometimes in New-York, sometimes at the Wallabout or Brooklyn, will find it extremely difficult to comprehend how any one of these local causes, or all of them united, can embrace these different seasons and places, and satisfactorily account for what has appeared in them all. Is it not well known, that during the above period it has at one time prevailed in New-York, and not at the Wallabout; at another, at the Wallabout, and not in New-York; a third time, in New-York, and not at Brooklyn; and a fourth time, at Brooklyn, and not in New-York? Now, as these villages are only about a mile distant from each other, and as New-York is separated from them only by a river of about eight hundred yards in its width, it is manifest that the "tropical heat" is about the same at one place as at another, and therefore climate cannot be allowed any agency in producing the disease. But Dr. Miller mentions this heat as being essential to produce that "pernicious exhalation which floats in the atmosphere," and is the "primary cause of the yellow fever." But he says there must be a "concurrence of heat, moisture, and a quantity of decaying animal and vegetable matter." From the above, we repeat, it is apparent that the degress of both heat and moisture of atmosphere must be nearly the same at the same time in all the different places mentioned. Nothing then remains to enquire after but the doctor's "decaying animal and vegetable matter." We shall not be contradicted by any one who recollects facts, or will turn to the publications of the times, that when the yellow fever broke out at the Wallabout, in 1804, it was proved by the undeniable testimony of several witnesses, delivered under the solemnities of an oath, that the place was liable to no imputation of any one of Dr. Miller's enumerated causes, nor of uncleanliness of any sort. The Wallabout is a small hamlet, consisting of about twenty dwelling houses only, erected at suitable distances from each other, and then contained a number of ship-carpenters, all of whom were well accommodated: far from being situated in "low and moist grounds," it stands upon the hard, gravelly and sandy bottom which forms the shore of the river; nor is there a foot of *made ground* in the place. In short, there was not the shadow of a pretence for supposing, any where near it, the doctor's "decaying animal and vegetable matter."

We are not forgetful that a long and particular statement of facts, totally different from this account, came out in the Medical Repository; and when the truth was afterwards made to appear incontestibly, we cannot conceal that we experienced a degree of indignation, that the editors should have never taken the least notice of it, but shewed themselves so utterly destitute of that candour and magnanimity, which readily acknowledges error, and hastens to correct it, as to persist in propagating false statements wherever their book obtains circulation. What, permit us to ask, what must the public think, what ought it to think, of a literary work which propagates important mistatements of material facts, and when it is afterwards convicted of so doing, instead of retracting, never permits the corrections to find their way into the work? Is not such conduct an injury to the cause of truth, and an imposition on the community?

While the yellow fever was raging at the Wallabout with a degree of malignity and mortality, as great in proportion to the number of the inhabitants, as perhaps ever was known, New-York remained entirely exempt. Such also was the fact, when the yellow fever prevailed at Brooklyn two years since; but concerning this we stated the case so fully in a former number, that it is quite unnecessary to re-examine it here. In a word, the disease has prevailed alternately in each of the three places, alone, all lying in the same latitude, and subject substantially to the same local causes. A single fact affords a simple, satisfactory solution of every difficulty. *While the ship-*

ping were permitted to come along side our wharves, the yellow fever prevailed in New-York; but since 1805, *that is, since they have not been allowed to approach within three hundred yards of us, but are at liberty to approach the opposite shore, and lie at their docks, the disease has been communicated to them, first to the Wallabout, and next to Brooklyn, while New-York has remained totally exempt.* With this single fact before us, why should any man of common sense perplex himself to divine the origin of this epidemic, by having recourse to theories about "rivers, and lakes, and marshes, and swamps, and made ground?" In neither of the above villages are rivers, or lakes, or marshes, or swamps to be found; and as to "made ground," there is not a foot at the Wallabout, little at Brooklyn, and in New-York there is nearly as much at the North-river side, where the yellow fever has never first appeared, as at the east side; and be it pernicious or be it otherwise, this same made ground has been going on with the same industry and success, for the last six years, as before, during which a whole street nearly has been made on the North-river, yet the epidemic has not once appeared in the city, although it has in the same period of time twice depopulated the villages on the opposite side of the river. How long is theory to bear down plain and undisputed facts, and sophistry to stifle common sense? But, says Dr. Miller, as the materials of putrefaction and the degrees of heat in a large city, greatly exceed what is found in the adjacent country, so the diseases arising under such circumstances must be proportionally more malignant. Such is the doctor's reasoning, but such are not the facts. The yellow fever was as malignant and as fatal when it prevailed in the adjacent country villages, as it was when it appeared in this city ; once introduced, there was no apparent difference.

We pass over the next head for the present, in order to come to the third question, viz. *Is the yellow fever a contagious disease ?* The doctor, who has long stood preeminent among the non-contagionists, takes the negative of the question. " But (he observes) before proceeding to offer reasons in detail against the non-contagiousness of the yellow fever, it is proper to premise some general observations on the subject :" and then he goes on to give a definition of contagion, in which, like a dexterous combatant, he exerts himself to obtain a point, by defining it so as to suit himself, begging the very question in controversy. After talking very learnedly about secreting contagious matter by a morbid action "of the vessels," he says, "its action (the action of contagion) is altogether *independent* of external circumstances, such as the state of the air," &c. According to this, it must, to be sure, be admitted that the yellow fever is not contagious ; but then, neither is any known disease whatever. The small-pox, although allowed to be the most contagious of all diseases, is not independent of external circumstances. " If forty persons, (says he) who have never undergone small-pox, be closely exposed to the effluvia of a number of patients lying ill of that disease in the ward of a small-pox hospital, thirty-nine certainly, and probably the whole number, will be infected."

But has the doctor forgotten the case of the Royal George, on board of which, while at sea, the small-pox broke out, but nearly one hundred out of eight hundred and eighty totally escaped the contagion, and the disease disappeared altogether. Now, then, if the contagion of small-pox is so universal in its operation, as certainly not to spare more than one, and probably not one of forty in a hospital, how is it to be accounted for that in the above case it should have spared about one hundred out of eight hundred and eighty? Will the doctor have the goodness to explain to us the cause of this difference? If it was not deprived in a great degree of its malignity in this instance of the Royal George, by being exposed to the ventilation of a constant sea-breeze, but is always altogether independent of external circumstances, to what was its comparative mildness owing? The doctor is not at liberty to say that in the hospital the air was less pure, for we have his word in the same paragraph, that "none of the truly contagious diseases derive any additional force from impure air." Neither will it do for him to say (as he does in p. 633) that "the greater contagiousness arose from the concentration of a greater quantity of contagious matter within a small space," because he afterwards (p. 676) says, although "the miasmata which produce yellow fever, are more or less noxious as they are more or less concentrated, yet *this is a property* which does not belong to the specific poison of small-pox." A man who thus contradicts himself without ceremony, sets refutation at defiance. We leave the doctor to his own reflections; but he must recollect, that the web in which he finds himself entangled is one of his own weaving.

"The agency of contagion in the propagation of the yellow fever," says he, "is rejected for the following reasons," and he proceeds to give us ten. They shall be examined in the order in which they stand. But before we go any further, it is certainly fit and necessary, that one should come to an understanding as to the subject of the dispute: What is meant by the contagion of the yellow fever? If Dr. Miller means one thing, and we mean another, it follows, that we are not at issue, and all further controversy must be useless. By the contagion of yellow fever, then, we mean that peculiar species of contagion only which is peculiar to that disease; we do not mean, as our antagonists have, more than once, strove to make us mean, the contagion of small pox, or syphilis, or measles, or any other contagion but that of the yellow fever itself. But they say a truly *contagious disease* is one that reproduces itself in the same manner, and with the same certainty, under all possible circumstances; as if any such disease ever existed. This attempt on their part to place us on ground which we do not intend, and never intended to occupy, is both unfair and disingenuous. It may be an adroit method of managing a dispute, but it is doing the highest injustice to an adversary, and to the cause of truth. Nothing, perhaps, has contributed more to blind and mislead the public in this controversy, than this very artifice of representing us as having maintained a doctrine which we never advanced, and then undertaking gravely to refute it. This certainly they can do, but then they claim the honours of a triumph, as though they had gained a victory, when there has never been a contest. It is necessary the public should be completely disabused on this point; and therefore, although we took some pains to explain ourselves in a late number of the Register, we shall do it once more, here.

When we say the yellow fever is a contagious disease, we mean to be understood as saying, and saying only, that it is a disease which, under certain circumstances favourable to such operation, may be communicated specifically from one person to another, either directly from person to person, or indirectly, by means of clothing, bedding, or any thing capable of receiving and conveying the disease. This is precisely our meaning, expressed in the simplest manner, carefully avoiding all attempts to account for the manner how this is brought about, or how it operates; and therefore we say nothing respecting secretions or excretions, or morbid actions, &c. &c. a deal of which is sure to be brought forward on all occasions, as if the object of our antagonists was to perplex, in order to confound. We express our opinion in a word, when we say that the *yellow fever* is communicable from one person to another. But it is communicated, or not communicated, according to circumstances. This is the whole extent of our doctrine. Nor is it necessary to any useful purpose that we should advance a step farther. This doctrine, once established, we may then with propriety call upon our law-givers for a system of quarantine laws to prevent any intercourse whatever between the diseased and the healthy, as the only known, safe and certain course.

To what practical use, we ask, as it regards this subject, has all this learning been bestowed on secretions and excretions, and morbid action? And of what possible concern to the public is the distinction between koino-miasmatic atmosphere, and idio-miasmatic atmosphere? And why all this violent controversy which has been raised about the exact degree of certainty with which any disease must communicate itself, before it can be entitled to rank as a contagion? If only two out of twenty, for instance, become diseased by infection, to what purpose would you show the other eighteen escaped? If those gradually accustomed to its action escape altogether, to what valuable purpose is this mentioned as to those who, under different circumstances, do not escape? The only purpose, in either case, must be to show by argument, that the disease is not a contagious disease; but this argument must vanish before the reply, "We acknowledge that, as to those who escaped, from whatever cause, the disease was not contagious, such was their situation, or such the circumstances in which they were placed, that they were not subjest to its action; but on the other hand, as to those who did not escape, the disease as to them certainly was contagious;" to argue, that it was not as to them, because it was not so as to the others also, is nothing less than to set up inference against fact. Hence it is, that the non-contagionists are so desirous of establishing their own definition, that a disease must be communicated with equal certainty in all places and seasons, independent of external circumstances, before it can be denominated contagious. If so, if this be the only correct definition of contagion, then we admit, that the yellow fever is not a contagious disease; it is only a *communicable* disease. But what advantage do the non-contagionists gain by this concession? They contend that no disease ought to be called *contagious*, that does not affect every one exposed to its action, and this under all circumstances and in all seasons; thus excluding the yellow fever from their list. We, on the other hand, maintain, that every disease which is communicated from person to person, under any circumstances, or at any season, is, *quoad hoc*, *contagious* or communicable, and that the yellow fever, therefore, comes within the definition. Why should not its introduction into our cities, we ask, be guarded against, if at first only one in fifty is liable to be attacked by it; since we know its nature to be to multiply in regular progression, and every new instance increases its force and activity, until from being at first but one in fifty, it soon becomes one in twenty, then one in ten, then one in five, until at length the atmosphere becomes so impure and infected, that not merely a majority of those exposed do not, but scarcely one in ten does escape; thus equalling in malignity and certainty the small-pox itself. Can we then, whether we call it contagious or communicable, can we be too anxiously vigilant to provide against its introduction?

Our great object is to obtain a good and effective system of quarantine laws, and such, we contend, if well and faithfully executed, will forever secure the city of New-York against a disease which, when once introduced and become an epidemic, makes more frightful havoc than any other in the known world, the plague only excepted. The object of those opposed to us, is to show that the disease is not a contagious one; that quarantine laws are absurd, because it is not possible to introduce it from abroad; that it is the produce of our own climate; to borrow their own libellous expressions, that " we live in the latitude of pestilence," and that, therefore, all attempts to prevent its introduction from a foreign country, are futile and ridiculous, while at the same time, these very gentlemen make so wide a difference between their theory and their practice, that for a bountiful reward, they have no scruple to undertake the superintendance of those very quarantine laws which they thus hold in derision.

" *Is the yellow fever a contagious disease?*" This is the question before us in order. " The agency of contagion (says Dr. Miller) is to be rejected for the following reasons," of which he gives us no less than ten. Be it so. They shall every one be put fairly to the test in the order in which they stand. It will be a business of some labour, and will consume some considerable time; but since the non-contagionists repose themselves on this body of learning and ingenuity, we will not be deterred by the length of the way from going through with it, and we trust we shall do so to the satisfaction of every impartial lover of truth.

(To be continued.)

DOMESTIC INTELLIGENCE.

Medical School of New-York.

In the last number of the Register, page 523, some account was given of the recent re-organization of the College of Physicans and Surgeons in the city of New-York, and a list of the appointments in that institution, inserted from the official report of the regents of the university. Though the laudable views of the regents, in uniting the respective talents of the two medical schools, have in a partial degree been frustrated, on account of the non-acceptance, by some gentlemen, of the professorships to which they were chosen, it affords us particular satisfaction to add, that the college is now in a most promising state of advancement. As an evidence of this fact, it need only be stated, that at the first medical commencement in this institution, held on the 15th of May last, (subsequent to the late act of the regents) the degree of *doctor in medicine* was granted to the following eight young gentlemen, who had previously undergone the necessary private examinations, and publicly defended their respective inaugural dissertations. This was a greater number of degrees in medicine than was ever before granted at one time in this city, since the establishment of a medical school in New-York. The honours of the college were conferred by the learned and venerable president, Samuel Bard, M. D. in the presence of the chancellor and regents of the university, the trustees of

Columbia college, &c. &c. besides a numerous assemblage of persons.

THEODRIC ROMEYN BECK, A.M. of Schenectady. "*On Insanity.*"

WILLIAM E. BURRELL, A.B. of New-York. "*On Bubonocele.*"

GERARDUS A. COOPER, of New-York. "*On Worms in the Intestines.*"

CASPAR WISTAR EDDY, of New-York. "*On the Analogy between the Animal and Vegetable Structure.*"

JOHN WAKEFIELD FRANCIS, A. B. of New-York. "*On Mercury.*"

HENRY RAVENEL, Jun. of South-Carolina. "*On Trismus Nascentium.*"

THOMAS EDWARD STEELL, A. B. of New-Jersey. "*On the Digitalis Purpurea.*"

SAMUEL ARMSTRONG WALSH, A. B. of New-York. "*On the Origin and Nature of Yellow Fever.*"

We shall only add, that such arrangements have been made in the college, by the board of trustees, that a complete course of instruction, in the various branches of medical science, will be given in this institution on the ensuing winter, as will be seen by the following circular:

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons.

(CIRCULAR.)

The several courses of instruction will commence, as usual, in this institution, on the first Monday in November. The session will be opened by an address from the President.

Since the last winter important additions have been made to the chemical apparatus, a laboratory has been built, and the chemical lecture-room has been so altered, as perfectly to accommodate the students attending Dr. Mac Neven, the professor of that science.

Such provision has been made by law for the anatomical department, that Dr. Smith, the professor of anatomy, will give a complete course of demonstrations, and will also illustrate his surgical lectures, by performing all the operations, practicable upon the healthy subject, in the presence of his class.

Dr. Hosack will lecture on the theory and practice of medicine, and a full and complete course will also be given on obstetricks, and the diseases of women and children.

The above series of Lectures constitute the Winter Session; the Spring Term, which commences on the third Monday in April, consists of Lectures on Natural History, and on Botany; the former by Dr. Mitchill, the latter by Dr. Hosack.

The lectures on natural history are illustrated by a large collection of mineralogical and geological specimens; and an elegant museum, to which the students can have access, affords every facility for the acquisition of zoological knowledge.

The botanic garden having been purchased by the state, and placed under the direction of the college, the students of botany will have an opportunity of visiting that establishment whenever they think proper, and of examining the many rare and valuable plants which it contains.

The various courses of instruction delivered in the college, are so arranged as to form a complete system of medical education; and the trustees and professors confidently promise, that no exertion on their part shall be wanting to fulfil the just expectations and liberal views of their patrons, the legislature and the regents.

The professors are bound to examine all applicants for degrees, and to report to the regents such as they approve, on or before the first day of March in every year. The diplomas are then granted, and the degrees are conferred in this city, on the first Tuesday in May, the candidate having previously delivered to the professors, and defended at a public examination, a thesis on some subject connected with medicine. The thesis may be printed at the discretion of the graduate, with the approbation of three of the professors.

By order of the College,
SAMUEL BARD, M. D. President.
JOHN W. FRANCIS, M. D. Register.

New-York, June 8, 1811.

Medical Society of the County of New-York.

At an anniversary meeting of the Medical Society of the county of New-York, held on Monday, the first of July, 1811, the following gentlemen were duly elected charter officers of that institution:

Dr. JAMES TILLARY, President.
Dr. WILLIAM MOORE, Vice-President.
Dr. JOHN ONDERDONK, Treasurer.
Dr. WALTER W. BUCHANAN, Secretary.
Dr. WRIGHT POST,
Dr. WILLIAM HAMMERSLY,
Dr. EDWARD MILLER,
Dr. RICHARD S. KISSAM,
Dr. VALENTINE SEAMAN, } Censors.

Remarks on the recent valuable publications of Mons. Dufief, of Philadelphia, Nature Displayed, in her mode of teaching language to Man, adapted to the French language, 2 vols. 8vo.; *and a new Universal and Pronouncing Dictionary of the French and English languages*, 3 vols. 12mo. *Communicated for the Register, by a Correspondent.*

WHOEVER observes the numerous improvements to which this country has given birth within a few years, amidst the tranquillity and welfare of its inhabitants, must feel much gratified by the new and successful mode of teaching languages, which Mr. N. G. Dufief has recently applied to the French tongue. In saying this, we do not fear the reproach of being partial, because two editions of *Nature Displayed* have been already disposed of within a few years, and a third one, now under our consideration, bids very fair for an equally rapid sale. In order to assist his useful plan, Mr. D. has also published an extensive French and English dictionary, connected with many glossaries and treatises, and included the whole in three portable and neatly printed volumes. Before we attempt, however, to inquire into the merits of this last publication, we beg leave to present our readers with an explanation of the method of Mr. Dufief.

On the authority of Locke, Condillac, and other eminent writers on the operations of the human understanding, he abundantly convinces us in his introduction, "that language and grammar are two very different objects, in no ways analagous, the former as physical, the latter as metaphysical, and that instead of teaching language by grammar, we should say that grammar is taught by language." This doctrine is very plain, and we imagine that it cannot admit of controversy, as long as we find that man can learn and speak his native language without the help of grammar. It is generally known that the famous Montaigne, who spoke almost all the European and dead languages, acquired them by *nature's method*, having been kept, from his infancy, by servants and teachers, whom his father had severely charged always to converse with him in their respective tongues. And for further testimony we might mention, that the most ignorant and poorest class of people, of certain districts of different nations, are distinguished for purity and correctness of language; such are those of Sienna, in Italy, of Blois and Tours, in France, of Old Castile, in Spain, and of Wraxham, in England.

Upon those self-evident principles, Mr. D. directs his pupils through the more important parts of the language he wishes them to speak. He offers to their attention and memory an infinite number of short sentences, composed of all words that natural wants and elements of knowledge could suggest. These form different vocabularies, always presented with a lateral or marginal column of the principal words that are to be remarked in the annexed phrases. To find a link to all these words, we have next all *articles*, *pronouns*, *adverbs*, *conjunctions*, &c. to be reviewed in the same practical mode, when the learner feels himself already enabled to take his part in *conversations*, *dialogues*, and *dramatic scenes*. Thus the first volume is artificially calculated to produce the same effect, as various excursions in foreign countries would afford to an intelligent and observing traveller, or as the many years of our infancy, from the lap of parents, and throughout our juvenile plays, have enabled us to prattle upon every thing, even before we could be sent to school.

It was not the intention of Mr. Dufief to put entirely in disuse grammatical rules for teaching languages. Having declared that grammar is the critical knowledge of a language, or a collection of observations upon custom, he only contends that the learner should be possessed of something upon which rules and critical information might be exercised, and this task he successfully discharges in the second volume, by the *analysis of the parts of speech*, and by *a syntax made easy*.

The two principal divisions of this volume are very methodical, and by their arrangement, with the correctness of the typographical execution, form a work much beyond common praise. The selection of materials for *reading* and *conversation* highly recommends the literary taste of the author, and points out a considerable range of excellent works in the French language, which he has made to contribute as models for the acquirement and nice discrimination of its beauties, genius, elegance, and correctness.

In the Universal and Pronouncing French and English Dictionary, Mr. Dufief has afforded us a rare example of what perseverance and industry can achieve within a short space of time. It is printed on a nonpareil type, in three duodecimo volumes, and contains 2226 pages. A short but critical examination of this work has not given us any reason to doubt of its correctness. We observe, besides, as a new improvement, that all the definitions and explanations of words are made in the vernacular tongue. Mr. D. deserves great praise for having paid so much attention to the numerous persons learning the French language in this and other countries.

A dictionary cannot be much extended beyond the list of customary, necessary, and legitimate parts of speech; hence the most celebrated works of this kind in all languages seldom contain technical words belonging to arts, sciences, mythology, geography, seamanship, &c. Readers must therefore be supplied with as many different dictionaries as there are subjects connected with their respective avocations. This is the reason why they have lately contrived in London small portable boxes, containing various pocket dictionaries. But Mr. Dufief has obviously provided for every possible exigency of the kind, as his work embraces no less than thirteen or fourteen dictionaries, useful glossaries, and instructive treatises, completing thereby the collection of all that is necessary for conversation, oratory, commercial, and other professional avocations. We must also observe, that this work, in comparison with the quantity of matter and elegance of typography, is offered at a very moderate price.

We wish Mr. Dufief the liberal reward which his undertaking is likely to receive in point of profit; that of honour, for meritorious talents and industry, is no doubt already permanently secured to him by an enlightened public.

Steward's Philosophical Essays.

The Philosophical Essays of Dougal Steward, Esq. the latest performance of this distinguished Scotch writer, are now in the press, and will shortly be published by Messrs. Whiting and Watson, of this city.

American edition of the Edinburgh Encyclopædia.

Proposals have been issued by Messrs. Parker and Delaplaine, of Philadelphia, for publishing by subscription, in 12 volumes large 4to. a new and augmented edition of "the EDINBURGH ENCYCLOPÆDIA, conducted by David Brewster, L. L. D. fellow of the Royal Society of Edinburgh, and the society of the Antiquaries of Scotland, with the assistance of eminent professional gentlemen."

It is with uncommon satisfaction we announce to the American people the republication of this truly valuable and splendid work. We shall not at present enter into any detail relative to its peculiar excellence; but content ourselves with observing, that, though but very recently projected by its learned editor and his able associates, such has been the general conviction of its superior merit, by the British nation, that it has surpassed in patronage every production of a similar kind. It appears to be the particular design of the present publishers not merely to offer a transcript of the English copy, but to adapt the work to the American public, by rectifying such errors, and supplying such omissions, as must unavoidably occur, respecting this country and its concerns. For this purpose they have obtained the co-operation of a number of American gentlemen, eminent in the various departments of science and literature, and we rejoice that it is their determined purpose not in the least to interfere with the integrity of the British text: that the improvements of the work are to be made solely by *additional* matter. May we be permitted to suggest to the enterprising individuals engaged in this great undertaking, wholly to abstain from factious politics, and polemical divinity. Let the original articles be devoted chiefly to an exhibition of our numerous inventions and discoveries in philosophy and the arts ; to an illustration of the physical geography and history of our country ; let them bring forward its neglected biography; and let every line be written in the sententious manner and true spirit of the original. The Edinburgh Encyclopædia, thus executed (and we know this to be the object of the publishers) will prove a magnificent repository of human knowledge, honourable to those concerned in its execution, and eminently worthy of the liberal support which it will doubtless receive from the American nation.

Population of the United States, 1810.

Virginia, (including the blacks)		966,079
New-York,		959,220
Pennsylvania,		810,163
Massachusetts, (proper)	472,040	700,745
Maine,	229,705	
North Carolina,		563,526
South Carolina,		414,935
Kentucky,		406,511
Maryland,		380,546
Connecticut,		261,042
Tenessee, (west)	160,360	261,727
(east)	101,367	
Georgia,		252,433
New-Jersey,		245,562
Ohio,		230,760
Vermont,		217,913
New-Hampshire,		214,414
Rhode Island,		76,931
Delaware,		72,674
TERRITORIAL GOVERNMENTS.		
Orleans,		76,556
Mississippi,		40,352
Indiana,		24,520
Columbia,		24,023
Louisiana,		20,845
Illinois,		12,282
Michigan,		4,762
Total		7,238,421

Observations on the Weather of the City of New-York, for the Months of April, May, and June, 1811.

APRIL.

On the 1st and 3d of this month there fell a small quantity of rain. On the night of the 7th we experienced a severe storm of hail, accompanied with more rain. Thermometer, at 7 A. M. at 37, at 3 P. M. at 45, and at 7 P. M. 39. From the 7th to the 10th the weather was clear and agreeable, wind chiefly from the south. On the 10th it again commenced raining, which on the 11th greatly increased, and was accompanied with snow; wind north-east. The [illegible]ther for the ensuing week, though again pleasant, was unusually warm for the season; thermometer generally, at 7 A. M. at 46 or 50, at 3 P. M. about 68, and 7 P. M. at 64. On the 21st more rain fell, accompanied in the night with a very strong wind from the north-east. The remaining days of the month were somewhat cooler, occasionally overcast, with but little wind, and frequent appearances of showers.

MAY.

The month of May was characterized by great extremes from heat to cold, for the season. Though the commencement of the month, and for a few days, was of an agreeable temperature, the weather of the 14th was extremely warm and oppressive. On the 18th, however, the change had been so great, that we had frost in the morning, and also on the 19th and 20th, a circumstance very unusual. The wind during this time was also very strong from the north-east. It now became overcast, and a small quantity of rain fell on the

22d. The three following days were clear and pleasant: on the 26th and 27th very warm, there being little air, and the solar heat very great. Thermometer, at 7 A. M. 64, at 3 P. M. at 76, at 7 P. M. at 67. On the 28th and 29th a small quantity of rain fell. On the 31st clear, and wind from the southward.

JUNE.

The weather of this month was particularly distinguished for its immoderate heat and great dryness, and for the consequently great injury done to the progress of vegetation, so as in many places to have altogether destroyed it. The first four days were clear and very warm, little wind from the south-west. Thermometer, at 7 A. M. at 72, at 3 P. M. at 76, at 7 P. M. at 70. On the 8th clear and refreshing breezes, and on the 9th refreshing showers. On the 10th an additional quantity of rain fell, acompanied with thunder and lightning. The 13th and 14th again extremely warm; but little air, and the solar heat very great. On the 15th and 16th light showers, accompanied with but little wind from the south-west. From the 19th to the 23d, inclusive, uncommonly warm; thermometer being at 7 A. M. at 80, at 2 P. M. at 90–92, and 7 P. M. at 80. The heat now became more moderate, and on the 27th there fell a little rain. Thermometer at 72 at noon. On the 28th the weather became so cool that many persons resorted to their winter clothing, and blankets were comfortable.

Observations on the Diseases of New-York, for the months of April, May and June, 1811

The city of New-York, during the greater part of the last three months, having been uncommonly healthy, our observations upon the diseases for that period will not be numerous.

The ordinary inflammatory complaints, arising from change of season, were met with in the months of April and May. A few solitary cases of *scarlatina* also appeared in different parts of the city, but scarcely extended beyond the individuals whom it first attacked; the character of the disease was also remarkably mild, attended with very little affection of the throat. Some cases occurred of *cynanche maligna*, in which the ulcers of the fauces assumed a very malignant aspect, requiring the use of the most active stimulant and antiseptic remedies. *Intermittent and remittent fevers* were among the complaints of this season; in some instances the latter disease was protracted into *typhus*, especially among the poor, whose confined and crouded apartments do not admit of the necessary attention to cleanliness and ventilation which this disease requires; and who also too frequently neglect to call for medical aid in the commencement of their complaints; to both which causes the greater severity of their febrile disorders are generally to be ascribed.

In the month of June, owing to the vicissitudes of the weather, and the very unusual degree of heat for the season, *cholera* and *diarrhœa infantum* have frequently occurred among children: the relative mortality of these diseases in the city at large we are not enabled to record, the corporation for some months past having ceased to publish the weekly obituary. In our own practice, we have again had reason to approve of the treatment recommended in the cholera of children;* we refer more particularly to the use of small doses of ipecacuanha and rhubarb, and the warm bath during the first or febrile stage, and the chalk mixture and country air in the second stage of the disease. The saline atmosphere of the sea-shore is particularly beneficial in this complaint, and we cannot too earnestly recommend early recourse to this remedy, not only in the cure, but as the preventive of that deadly disease, which we do not hesitate to say destroys more children than all the other diseases of infancy combined.

But the heat of June was not only productive of diseases among children; in many cases *cholera morbus* and *bilious colic* attacked adults with great violence. These were especially induced by imprudent exposure when heated, to a stream of air, and the sudden changes of weather which, as already noticed, occurred in the month. Although these last diseases are generally considered by physicians as complaints of the bowels, we have been led to view them as diseases of the whole system, and frequently as connected with a febrile state of the body, and in many instances with a plethora of the blood-vessels. The habits of body most subject to attacks of this sort, viz. those of a gross, lax fibre, who live a sedentary life, are accustomed to full feeding, and in the free use of stimulating drinks; the symptoms which precede an attack of this disease, such as pains in the head, vertigo, propensity to sleep, with a sense of numbness in the extremities; the exciting causes of the disease, viz. excessive heat, exposure to a stream of air, or cold applied to the extremities when the body is heated, the sudden removal of an accustomed piece of clothing, as flannel, worn next to the skin ; the immense discharge of fluids from the liver and serous vessels opening into the intestinal canal, which constitutes cholera, the irritation of the abdominal viscera in bilious colic, all lead to the opinion above stated, that they are frequently diseases of the whole system venting themselves by these evacutions. The excessive hemorrhages which frequently take place from the liver, stomach, and intestines, during the hot season of the year, are no less favourable to this opinion.

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* See Vol. I. p. 220—1.

The observations made by Dr. Dewar,* upon the connection which subsists between disorders of the bowels and other diseases, such as pneumonia, rheumatism, and eruptive complaints, and their alternate operation upon the system, serve to show that the former, like the latter, are dependent upon the general condition of the blood-vessels. We also accordingly find, that blood-letting, as in cases of hemorrhages, is among the most effectual means of restraining those excessive bilious and serous secretions which occur at this season of the year. It is not to be understood that the lancet is to be had recourse to indiscriminately in every case of cholera. The prostration of strength induced by the evacuations spontaneously produced, as in cases of hemorrhage, will forbid the use of this remedy. But where the disease occurs under the circumstances before stated, in a full habit of body, and the physician is called before great debility has been produced, blood-letting, as in restraining sanguineous discharges from the larger vessels, will frequently produce immediate relief by diminishing the excessive evacuation which takes place from the liver and serous vessels of the intestinal canal in these diseases. Cases of this sort have frequently fallen under the observation of the writer of this article, in which he has been compelled to employ the lancet, where the remedies ordinarily prescribed, viz. rhubarb, magnesia, emetics, &c. have been administered without success. In those cases attended with great pain in the stomach and bowels, or with spasmodic affections of those organs, the warm bath and blisters have also been applied, in conjunction with the lancet, with manifest advantage, and probably have afforded relief upon the same principle, by diverting the irritation from the internal organs to the external surface of the body.

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* See Observations on Diarrhœa and Dysentery, as they appeared in the British Campaign of Egypt, in 1801. p. 37.

RECENT AMERICAN PUBLICATIONS.

A Guide for Young Shepherds; or, Facts and Observations on the Character and Value of Merino Sheep; with Rules and Precepts for their Management, and the Treatment of their Diseases, as well as of Sheep in general. Collected from the latest and best writers on these subjects, and confirmed by the experience of the author and his friends. By Samuel Bard, M. D. &c. 12mo. New-York. Collins & Co.

A Treatise on a Malignant Epidemic, commonly called Spotted Fever, interspersed with Remarks on the Nature of Fevers in general, and with an Appendix, in which is republished a number of Essays written by different authors on this Epidemic, with the addition of original Notes, containing also a few original and selected Cases, with Clinical Remarks. By Elisha North. 12mo. New-York. T. & J. Swords.

Observations on the Climate in different parts of America, compared with the climate in corresponding parts of the other Continent. To which are added Remarks on the different Complexions of the Human Race; with some Account of the Aborigines of America; being an Introductory Discourse to the History of North Carolina. By Hugh Williamson, M. D. & L. L. D. Member of the Holland Society of Sciences, of the Society of Arts and Sciences of Utrecht, of the American Philosophical Society, &c. 8vo. New-York. T. & J. Swords.

Anniversary Oration, pronounced before the Society of Artists of the United States, on the 8th of April, 1811. By B. H. Latrobe, Esq. Philadelphia. Inskeep & Bradford.

Observations on the Establishment of the College of Physicians and Surgeons in the City of New-York, and the Proceedings of the Regents relative to that Institution. Communicated in a Letter to James S. Stringham, M. D. Professor of Chemistry in Columbia College, by David Hosack, M. D. 8vo. New-York. C. S. Van-Winkle.

The Baltimore Medical and Philosophical Lyceum. By Nathaniel Potter, M D. Professor of the Theory and Practice of Physic in the College of Medicine, Maryland. Vol. I. No. 1. for January, February and March, 1811. Baltimore.

An Inaugural Dissertation on Insanity, submitted to the public examination of the Trustees of the College of Physicians and Surgeons in the state of New-York, (Samuel Bard, M. D. President) for the degree of Doctor in Medicine, on the 14th of May, 1811. By Theodric Romeyn Beck, A. M. Licentiate in Medicine of the Medical Society of the county of New-York. 8vo. New-York. J. Seymour.

An Inaugural Dissertation on the Use of the Digitalis Purpurea in the cure of certain Diseases; submitted to the public examination of the Trustees of the College of Physicians and Surgeons, &c. By Thomas Edward Steell, of New-Jersey. 8vo. New-York. T. & J. Swords.

The Political, Philosophical, and Literary Works of Benjamin Franklin, L. L. D. &c. &c. comprehending his Secret Journal at the Court of Versailles, &c. (4 volumes published.) Philadelphia. W. Duane.

PROPOSED AMERICAN PUBLICATIONS.

By Seymour & Williams, Savannah—The History of Georgia, from its first settlement under the government of General James Edward Oglethorp, to the commencement of the American Revolution. With an Introductory View of the present state of the country, its Climate, Soil, Productions, Population and Extent, &c.

By E. J. Coale, Baltimore.—An Introduction to the History of Maryland. To which is added, a Sketch of the History of Maryland, during the three first years after its original settlement. By John Leeds Bosman, Esq.

TO CORRESPONDENTS.

An Original Letter of the late Dr. Benjamin Franklin, giving an account of the first formation of the American Philosophical Society, and another paper written by the same distinguished philosopher, both recently found among the manuscripts of the late Gov. Colden, and politely presented to the editors, for publication, by C. D. Colden, Esq. shall appear in our October number.

A Letter from Dr. Chisholm, of Clifton, (Eng.) addressed to Dr. David Hosack, in answer to his Observations on Contagion, will also then appear.

THE

AMERICAN

MEDICAL AND PHILOSOPHICAL

REGISTER.

OCTOBER, 1811.

ORIGINAL COMMUNICATIONS.

I.

STRICTURES *on the Classification of* CONTAGIOUS DISEASES *proposed by Dr.*DAVID HOSACK: *communicated in a Letter to him, by* COLIN CHISHOLM, *M. D. F. R. S. &c. &c.*

Clifton, (England) October 14, 1809.

DEAR SIR,

YOU will find in the October number of the Edinburgh Medical Journal the observations on contagion you favoured me with some time ago.*

I approve highly of the first part of your paper; but on reading the third class of your division of contagious diseases, I find myself obliged to dissent, or at least to hesitate in affixing entire approbation to it; and, indeed,

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* See also the Register for July last, p. 14.—ED.

I have reason to think, that when you have reconsidered the admissions and concessions you have there made, and the tendency which they have to throw all fevers, however arising, except those which are symptomatic of what are called specific contagions, and which comprise the whole of your second class, into an undefined state of anomaly, you may see cause for retracting them, or giving them more limitation. For my own part, I feel more inclined to divide all diseases of contagion into two classes, which may be denominated apyrexious and pyrexious; and as the latter are distinguished, mediately or immediately, by specific causes, they may be divided into two sections, the symptomatic and the ideopathic.

If a febrile disease has for its cause, an aura, a gaseous fluid, emanating from the body of a man labouring under that fever, which will manifest activity only within a certain, generally definable, distance from that body, how can we with any propriety of conception or language say, that such a disease is only communicable through the medium of an impure atmosphere? Again, is not a fever proceeding from the action of marsh miasmata different from the fever we have been just considering, in as much as the one is *not* communicable—the other *is certainly* communicable from the subject of it to a healthy subject? How then can we admit such a proposition as the following: "In an impure air, rendered so by the decomposition of animal and vegetable substances, as takes place in *marshy countries*, or by concentrated human effluvia, as in camps, jails, hopitals, or on ship board, they (your third class) are rendered, *not only extremely malignant and mortal in themselves, but become communicable to others who approach the sick, or breathe the same atmosphere which has become assimilated to the poison introduced, in* *so much, that the same specific disease is communicated, whether it be plague, yellow fever, typhus, or dysentery?*" Pardon me when I say I do not understand this; when I say I perceive a marked inconsistency in it; several causes of an opposite nature producing effects all partaking of one general principle, contagion. Is not this a very near approach to the heterogeneity I have apprehended? I suspect that dysentery does not come with marked propriety into the same class with plague, yellow fever (malig. pestilential) and typhus, for it is certainly oftener the product of marshes than morbid animal effluvia, and partakes very often of the type of intermittents. When I thus object to your classification as it relates to pyrexious contagions, I fully admit the occurrence of hybrid fevers, that is, contagious fevers with the types of those we know to proceed from the action of marsh miasmata. But on these occasions, all the conditions which constitute pyrexious contagions, are present; their form is only a little changed; their nature is unaltered: they are communicable only within the radius of contagion. That plague, or yellow fever, (by which I understand the fever to which I have given the name malignant pestilential,) more especially, "are *only* communicable through the medium of an impure atmosphere;" that in a pure air, in large and well ventilated apartments, &c. they are not communicated, or very rarely, are propositions which I much doubt, because they are most certainly in direct contradiction to my own experience. I speak more immediately concerning the malignant pestilential fever. Were this a fact sanctioned by universal experience, (forgive the pointed expression, it is only for your own eye) the extirpation of this fever might in general be a very easy operation. But I have seen too many proofs of its contagion communicating itself to healthy persons in a pure atmosphere, to admit the validity of your definition of it. If healthy persons, or persons possessing every internal feeling and external appearance of health, passing to leeward, within six feet of other persons just recovered from the malignant pestilential fever, and wearing the clothes they had on their persons during the presence of the fever, have received the contagion of the fever from them, and have perished under its action; if this has happened in the open air (wherein nothing generally conceived to be impure, could be perceived) surely your definition cannot be said to accord with experience. Again, if in a chamber kept as clean and as pure as it is possible to keep a sick chamber, the disease has been in many hundred, I might safely say thousand, instances, communicated from the persons afflicted with it, to others in a state of apparent health, when the latter have approached the former to within the radius of contagion; if this is true, and the proofs of its being so are innumerable, I must again say, that surely your definition cannot be said to accord with experience. Had it been advanced, indeed, that all pyrexious contagions, but particularly that of the malignant pestilential (yellow) fever are rendered more violent in their action under the circumstances you have stated, no possible objection could be made to the proposition, because it is supported and proved by all experience; and the reason is, perhaps, as obvious, as the fact itself is generally admitted. It does not proceed from the impure atmosphere becoming assimilated to the poison introduced, but from rendering the system of the healthy person, who receives the poison by approximation to the sick, more susceptible, at the moment of its introduction, of its peculiar action; or the chemical physician may say, had it been advanced that the atmosphere of the sick chamber, being confined and close, as it too often is, is rendered obnoxious to health, by having its oxygen diminished by the respiration of the persons, sick and well, inhabiting it, and that thereby the effluvia of contagion become more concentered by being less subjected to decomposition or solution, whichever you will, the proposition would be less objectionable. But in either case, the laws of the existing contagion are not affected: in the one, the healthy person is only made more susceptible of its impression; in the other, it becomes less volatile, and therefore more virulent, and more certain of infecting. But the atmosphere is not assimilated to its principle. And, indeed, it must be evident, that were this not the fact, we should have no right to expect a specific disease produced by a specific contagion—plague and yellow (malignant pestilential) fever produced by the contagions peculiar to them.

But all fevers appearing in the circumstances you mention, would necessarily have an undefined character; they would be universally anomalies; a result so inconsistent with the regularity of nature, I imagine, has never been met with. There are, indeed, seeming anomalies produced by a combination of morbid causes and effects. But as these are well known to depend on the irregular performance of some particular functions, occasioned generally by morbid depositions on the organs of these functions, they lose their anomalous form in the mind of the judicious physician, and are cured by the adoption of appropriate means. Now, as the diseases which you class under your third head, have each a peculiar and well defined character, so must they severally have a peculiar contagion. And the circumstances under which you represent them, must be considered as purely adventitious, and aiding only inasmuch as they may predispose the healthy body to be acted on by the peculiar contagion it is exposed to, or as they may render the basis of that contagion less decomposable. One word more, and I am done with my impertinent critique: are not all contagious diseases capable of communication by *fomites?* (a word which by the by does not seem to be well understood. Servius's comment on a passage in the first Æneid of Virgil, gives a more distinct idea of the word *fomes* than any I have met with. You know it is received by our medical lexicographers as derived from the verb *foveo*, a derivation I doubt much the correctness of. The passage I allude to you will find at verse 178, the last member of which is "rapuitque in fomite flammam;" on which Servius says, "Fomes sunt assulæ quæ ab arboribus cadunt, cûm inciduntur, et igni concipiendo commodæ sunt." Now, were we to substitute words in the following manner, we should have, I imagine, a correct idea of fomites: Fomes sunt indusiá, panni aliaque vestimenta quæ corporibus ægrorum peste aliáve febre contagiosa laborantium, cadunt; cûm inciduntur et contagioné concipiendæ commodæ sunt.) If they are, what has impure atmosphere, so rendered by the decomposition of animal and vegetable substances, to do with their origin? The purest atmosphere conceivable, that is, an atmosphere in all respects well conditioned to support animal life in a perfect state, cannot prevent an attack of the malignant pestilential (yellow) fever, if a healthy person is exposed to the fomes of its contagion, and is predisposed to be acted upon by it. The remarkable proof of this which occurred at New-Haven, and which has been so ingenuously related by Dr. Munson, must be perfectly in your recollection. The present inquiry has nothing to do with those singular ideosyncrasies which resist contagion, although exposed to that of variola, rubiola, &c. as well as that of malignant pestilential fever, &c.

As the foregoing is not entirely my own opinion relative to your classification of contagious diseases, I hope, and indeed feel convinced, you will forgive the freedom I have taken in so candidly giving it. You will also, I am satisfied, receive in good part, in the spirit of true philosophy, my request, that you will reconsider particularly your third head, which I imagine is the only objectionable one. I am aware of the inconsistency which may be attributed to me in stating a proposition so opposite to that which may be found in my essay on the malignant pestilential fever, vol. 1, p. 281, and in my letter to Dr. Haygarth, p. 142. But herein, I trust, I manifest that disposition which should be paramount in the minds of those whose object, in all discussions, is truth. Subsequent inquiry and reflection have convinced me that I stood not on solid ground, when I stated, that among the causes of pestilence is the product of animal substances of every description, deprived of life, and in a state of putrefaction: and I cordially agree with the critic on my letter to Haygarth, when he says, "we are more inclined to think that there is a specific contagion distinct from mere putrefaction, and which perhaps is not cognizable by any of our senses."—*Crit. Rev. July*, 1809.

It may be asked, as all contagious diseases proceed from certain specific or peculiar causes, what are those causes, and how arises that diversity of character assumed by contagions? To this question we must be silent; for no pathologist, however experienced, and however deep his research into nature may be, can give a satisfactory answer. We know that there is such a diversity, and, in general, we have some knowledge of the treatment they severally require. Perhaps this is as much as we ought to know. It is a subject which must forever elude human research. Neither anatomy or chemistry give any aid here. Exuberant fancy may indeed wanton in theory, and may conceive every different form of contagion as proceeding from a different combination of the same chemical principles acting differently on the organs of our frame, or on the fluids which they secrete. But strip these notions of their fancy-dress ; let them stand naked before us, and they become mere phantasms. Par levibus ventis, volucrique simillima somno.

Believe me to be,

Dear Sir, very faithfully your's,

Dr. HOSACK. C. CHISHOLM.

II.

OBSERVATIONS *on the Art of making the Composition called* TAPIA. *By* ALEXANDER MACOMB, *Esq. Member of the United States' Military Philosophical Society.*

TAPIA is a composition of shells, lime, and sand, in such proportions as to make a complete cement, which in the course of a short period becomes one solid stone.

The proportions for this composition were never correctly ascertained until lately, and then by mere accident. In Beaufort, in the state of South Carolina, where the tapia is more practised than in any other part of the United States, they use no sand, and this is done for no other reason, than because all the ancient British works were constructed of tapia formed of shells and lime only, and

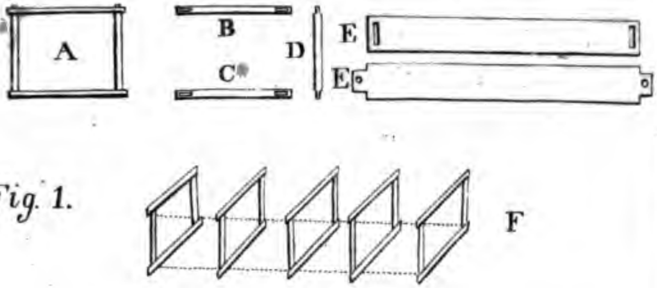

Fig. 1.

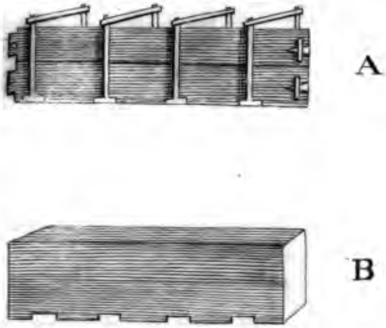

Fig. 2.

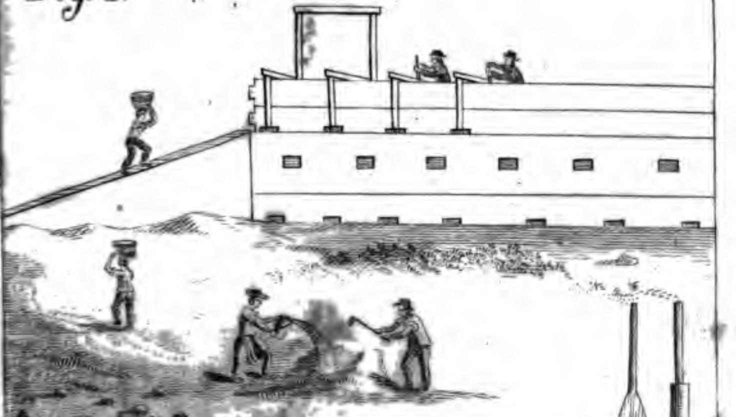

Fig. 3.

UNIV. OF MICH.

some parts of these ancient works are remaining perfect to this day. But it will be found on examination that those pieces of tapia, even at this day, are not so cemented as to prevent their being broken to pieces without much labour.

The addition of sand has been employed with great success in North Carolina, near the mouth of Cape Fear river. The proportions there used were, three of shells, three of lime, and three of sand, or one measure of each material; and I am inclined to believe, that although that was the proportion agreed upon in the contract for building the work, yet, through the carelessness of the workmen, a greater proportion of sand was added. However, be it as it may, there are walls of each kind, that is, with sand, and without sand; that composed of the three materials, sand, lime and shells, is now firm, strong, and well cemented; and that formed of lime and shells only is not yet dry, nor is it reasonable to suppose that it will ever become so well cemented as if it had had a due proportion of sand, because lime of itself is no cement: shells are substituted for bricks or stone, and the sand is intended to form the mortar, and there is no one, I am sure, who will not admit that mortar composed with gravel or sand is stronger than that made of lime solely.

The proportions which I have found by experience to make the strongest tapia are the following:

One of Sand,
Two of Lime,
Three of Shells.*

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* The proportion of sand must be adapted to the quality of the lime, more or less according to its strength or weakness.

The proportions being now settled, we will proceed to shew how the materials are mixed, and the manner of building with the composition; also, the tools and implements necessary for carrying on the work.

The method of mixing the tapia is simply this: the shells are first laid on the ground, or a floor of boards, the lime on top of the shells, and the sand on the lime, which being well mixed together with water by means of a hoe or spade, is thrown up in heaps to be carried to the moulds or troughs; it is then carried either in tubs or hods to the moulds, and there emptied; it is afterwards rammed so as to mix it the better, and to force it into all the corners, which at the same time makes it more compact.

All the implements necessary for carrying on the work and mixing the tapia are, a plumb line, pestles for ramming the tapia into the moulds, some hods for carrying the tapia to the moulds, hoes and shovels for mixing the composition, and the moulds or cases, which are made in the following manner: (see plate 1.)

The mould is made of any number of short pieces of scantling, about three inches square, of a length suitable to the thickness of the intended wall, having at each end a mortice or tenon hole, and as many upright pieces of scantling, or inch, or inch and a half plank, or three inch scantling, about four feet high, with tenons at each extremity, so made as to enter the mortice easily below, and to receive a yoke above, which will keep them together; then pieces of board, an inch and a half thick, are laid against each side of the uprights, and kept apart by means of a small stick, of the exact size or thickness of the wall. The cement being then thrown into the mould, it will press it to its proper size, and it must remain there till it is dry enough to stand by itself; the box is then taken asunder, and another course is made on top in like manner. In the summer time one course of two feet in height may be made in a day, but in the winter it will take two days, and sometimes three or four days, to dry the tapia sufficiently to receive another course. The method of putting up the mould and carrying on the work being now readily explained by a plan, I must beg leave to refer the reader to the plate.

EXPLANATION OF THE PLATES.

Plate 1. A. The manner of putting the frame together.
B. The upper cross piece or yoke.
C. The lower cross piece with the tenons.
D. The upright.
E. E. The boards which constitute the sides of the box.
F. Exhibits the frame without the boards.
Plate 2. A. The frame up with the tapia in it.
B. The appearance of the tapia when the box is taken off. The line shows the mark left by the junction of the boards.
Plate 3. Affords an idea of the manner of carrying on the work.

III.

CASE *of Diseased* LIVER *and* SPLEEN : *Communicated to the Editors, by* J. B. STUART, M. D. *of Albany.*

Mr. ——, the subject of the following remarks, aged fifty-five years, (at the time of his decease, which happened in December last,) was of a robust muscular habit, had been the greater part of his life employed in mercantile pursuits, and was alike remarkable for his temperance and industry. He enjoyed a state of general good health until the spring of 1807, at which time, his countenance became sallow; he complained of a faintness at his stomach, particularly in the morning; had a troublesome cough, and complained of general debility. Notwithstanding these symptoms, he continued to attend to his usual business until the July following, when he was attaked with a complaint having the usual characteristics of a diseased liver, attended with considerable fever, which continued for several weeks. The most prominent symptoms, however, gave way to the usual remedies, but he did not recover his natural healthy complexion and strength. He continued in this state until January, 1808, at which time he complained of a sense of fulness in his left side, accompanied by a dull pain.

On examination, an evident enlargement was discovered in the left epigastric region. He now commenced with a course of mercury, which was continued for some time, by which his general health appeared to be improved, but the tumor continued to increase slowly. During the succeeding twenty months, he consulted some of the most eminent physicians in this part of the United States; of course, tried a great variety of prescriptions, and took considerable exercise both by land and water, but all to no effect.

Although he was at times able to attend to some business, yet his general health continued to fail.

By the first of October, 1810, the tumor in the *left side* had increased to a considerable size; and for some time past, there had been a considerable enlargement of the *right side*, which also seemed to increase gradually.

Soon after this, by the advice of a physician in New-York, he applied a plaster of the *extract of cicuta* to the left side of the abdomen ; shortly after its application, he complained of sickness at his stomach, which was soon followed by a swelling on the *right side*, which extended to the axilla, and appeared to be seated in the cellular membrane. In a few days the parotid, maxillary, and axillary glands of the right side became considerably enlarged, and were soon followed by a swelling of the right arm and hand, attended with high inflammatory symptoms ; his cough became very severe ; respiration difficult ; had a constant pain at the lower extremity of the sternum ; sickness at stomach ; pains in the head, and his eyes and countenance were very sallow. This was on the fourth of December. The remedies employed removed the sickness, head-ache, and glandular swellings of the neck, and considerably relieved the arm and side. On the sixth, the arm and hand were œdematous ; the pain at the end of the sternum was constant and severe ; respiration difficult, and attended with great anxiety ; pulse full and hard, and blood drawn at this time showed marks of high inflammation. He remained much the same until the twelfth, when he expired.

Leave was obtained to open the body, and the following were the appearances on dissection :

On opening the abdomen, the first thing that attracted our attention was, the almost total destruction of the omentum, and the great size of the liver and spleen. The liver was at least four times its natural size ; the gall-bladder about three times its usual size, and full of yellow bile ; in every other respect, the liver appeared to be free from disease.

The spleen was very much enlarged; it was judged by the spectators to weigh eight or ten pounds. It had formed extensive adhesions to the diaphragm, intercostal muscles, and colon, and was of the consistence of cartilage. It had lost its original form, and extended upwards, so as to press hard upon the left lobe of the lungs. The remainder of the abdominal viscera appeared to be free from disease.

The stomach was much compressed by the liver and spleen, and the pressure of these viscera had turned up the end of the sternum like a hook. On raising the sternum, the mediastinum shewed marks of considerable inflammation, and in some places of partial suppuration, and had formed adhesions to the right lobe of the lungs. The pericardium, which was externally highly inflamed, was very much distended with water. The heart appeared healthy. The right lobe of the lungs was of a healthy appearance, but had formed considerable adhesions to the pleura on the side, and to the mediastinum. The left lobe was diminished at least one third in size.

JOSEPHUS B. STUART.

Albany, *August* 28, 1811.

IV.

CATALOGUS PLANTARUM *quas sponte crescentes in insula Noveboraco, observavit* JOHANNES LE CONTE, *Eq.: sub forma espistolæ ad* D. HOSACK, M. D. *missæ.*

AD obsequium precis olim a te factæ catalogum plantarum Noveboracensium tibi mitto, in æstimatione tua si dignus sit lucem visendi, prodeat. Mancum esse opus

me non fugit; satis sum conscius quam multæ ommittantur plantæ, sed nullus botanicus hanc ob causam gravi mihi culpa vertet: nam absentia mea per plures menses annorum quinque posteriorum et mens haud libenter scientia naturali ad res alienigenas longe evagans, tam perfectum esse quam volui vetuerunt. In plantas cryptogamicas præsertim species multæ nimis cognitæ silentio prætereuntur. Dum in hanc regionem moratus attententione semper ad stripes nobiliores versa hujus difficilioris botanices partis adcurate investigandi occasio mihi non fuit, et inter breves, instabilesque commorationes quas nunc per æstates singulas quotannis facio, otium non datur idoneum, efficiendi id quod solum catalogum annexum, completiorem evadere fecisset. Qualis est tamen, forte principium et quasi repagulum fiat, a quo scientiæ cultores procederent, donec, quodcunque alma natura per insulam nostram dispersit, ne ampluis in obscurum maneat. Si in mente fiducia major infuerat, plurimas species novas forte elaboravissem; sed junioris botanophili modestia me deterruit, nec ejus modi est scopus operis ut investigationem ullius rei desceptatæ admittat, et hoc necesse fuissit; nam, si cum aliquo auctore bene noto dissentirem, aliquid rationis dissentiæ dicere coactus essem. In nullum mea mens grandius vacare opus desiderat, quam confusionem et ambiguitatem in descriptionibus multarum specierum varietatumque plantarum Americes, parum doctis introductas, removere, sed hic locus et opportunitas non dantur, igitur de hac re etiam animadversationibus parcui.

Primo in animo fuit plantas secundum classes et ordines disponere sicut cl. Muhlenberg, jamdudum effecit in indice floræ Lancastriensis; sed ad ordinem alphabetacariam spectans quam multo facilior est referendi gratia hoc modo utere placuit.

Plantas non indigenas vel ex regionibus exoticis huc adsportatas asterisco notavi.

J. L. C.

Dabam Noveboracopoli.
Tert. Kal. Sep. 1811.

CATALOGUS, &c.

Acer rubrum
saccharinum
Achillea millefolium*
Acorus calamus
Actæa spicata
Adiantum pedatum
Agaricus campestris
Agrostemma githago
githago segetum, Desf.
Agrostis stricta
Aira melicöides, Mich.
obtusata, Mich.
Aletris farinosa
alba, Mich.
Alisma plantago
Allium canadense
Alsine media
Amaranthus hypochondriacus*
lividus
oleraceus
Ampelopsis quinquefolia, Mich.
Hedera quinquefolia, L.
Cissus hederacea, Pers.
Anagallis arvensis
Andromeda racemosa
paniculata, Walt.
Andropogon scoparium, Mich.
Virginicum, L.
Andryala sinuata
Anemone dichotoma
hepatica
Pensylvanica
thalictroides
thalictrum anemonoides
Anethum fœniculum*
Anthemis cotula
Anthoxanthum odoratum
Antirrhinum canadense
Apocynum androsœmifolium
Aquilegia canadensis
Arabis canadensis
Aralia nudicaulis
Arctium lappa*
Arenaria rubra
canadensis, Pers.
Arethusa nutans
Aristolochia serpentaria
Arum triphyllum
Asclepias purpurascens
Syriaca
tuberosa
decumbens, Walt.
cinerea, Walt.
Asparagus officinalis*
Asplenium trichomanes

Aster Novæ Angliæ
Novi Belgii
rigidus
cordifolius
solidaginoides, Mich.
Avena pensylvanica
spicata
glumosa, Mich.
Azalea viscosa
nudiflora
Berberis vulgaris
Betula nigra
lanulosa, Mich.
tremula, Mich. f.
lutea, Mich. f.
glandulosa, Mich. f.
Bidens cernua
connata
Boletus tuberosus
Briza maxima
Bromus canadensis, Mich.
mollis
Cactus opuntia
Caltha palustris
Campanula perfoliata
amplexicaulis, Mich.
Carduus horridulus
Carex leporina
vulpina
muricata
Carpinus Americana
ostrya
Cassia chamæcrista
Ceanothus Americanus
Celastrus scandens
Celtis occidentalis
Cephalanthus occidentalis
Cerastium viscosum
Chelidonium majus*
Chenopodium album
Chelone glabra
Chironea chloroidea
angularis
campanulata
Chrysanthemum leucanthemum
Cichorium intybus*
Cicuta maculata
Circæa lutetiana
Claytonia Virginica
Clavaria coralloides
Clematis virginiana
Clethra alnifolia
Comptonia asplenifolia, l'Her.
Liquidambar asplenifolia, L.
Collinsonia canadensis
Convallaria bifolia
polygonatum
racemosa
multiflora
Convolvulus sagittifolius
sepium
panduratus†
Conyza marilandica, Mich.
erigeron camphoratum, L.
Cornus florida
alternifolia
sericea, l'Her.
cærulea, Lmk.
Corylus Americana
Cratægus coccinea
pyrifolia
oxyacantha*
Crotolaria parviflora
sagittalis
Cucubalus stellatus
Cuscuta Americana
Cymbidium odontorhizon
Cyperus compressus
strigosus
Cypripedium parviflorum
Dactylis glomerata*

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† Potius Ipomeæ species.

Datura stramonium*
Daucus carota*
Dioscorea villosa
paniculata, Mich.
Diospyros virginiana
Dracontium fœtidum
Elymus canadensis
Epilobium lævigatum‡
lineare‡
Erigeron canadense
*Erythronium dens canis
Eupatorium perfoliatum
maculatum
purpureum
Euphorbia maculata
polygonifolia
Fagus castanea
sylvestris
Fragaria virginiana
Fraxinus platycarpa, Mich.
Fucus vesiculosus
Fumaria sempervirens
glauca, Curt.
corydalis sempervirens, Mich.
Gentiana crinita
saponaria
Geranium maculatum
Gerardia flava
glauca§
purpurea
tenuifolia
Glechoma hederacea
Gleditsia triacanthos*
Glycine apios
comosa
monoica
Gnaphalium plantaginifolium
uliginosum
Hamamelis Virginica
Hedysarum canadense
marilandicum
nudiflorum
paniculatum
viridiflorum
glabellum
rotundifolium
Helianthus decapetalus
giganteus
tuberosus*
Hibiscus moscheutos
palustris
Hieracium venosum
marianum
scabrum
Hydnum imbricatum
Hypericum perforatum
canadense
Virginicum
Hypnum crista castrensis
Hypoxis erecta
Imbricaria convexiuscula
Impatiens noli tangere
Inula helenium
Iris Virginica
versicolor, Auct.
Iva frutescens
Juglans alba
tomentosa, Mich.
compressa, Gært.
alba, Mich.
porcina, Mich.
amara, Mich.

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‡ Spec. nov. harum specierum novarum descriptiones et inconographiæ in sequenti hujus operis fasciculo forte apparebunt.

§ Species nova, C. W. Eddy primo observata.

cinerea, L.
cathartica, Mich.
nigra
hybrida†
Juncus effusus
nodosus
squarrosus
sylvaticus
Juniperus Virginiana
Kalmia latifolia
Lamium amplexicaule
Laurus sassafras
benzoin
Leontodon taraxacum*
Lespedeza procumbens
polystachya
Ligustrum vulgare*
Lilium Philadelphicum
superbum
Linum usitatissimum*
Liquidambar styraciflua
Liriodendron tulipifera
Lithospermum Virginianum
onosmodium hispidum, Mich.
Lobaria submarginalis
Lobelia cardinalis
siphilitica
claytoniana
kalmii
inflata
Lonicera sempervirens
dioica
parviflora, Pers.
diervilla
diervilla lutea, Desf.
Ludwigia alternifolia
nitida, Mich.
Isnardia palustris, L.

Lycium Carolinianum
Lycoperdon bovista
Lycopodium complanatum
dendroideum
rupestre
Lysimachia thyrsiflora
ciliata
racemosa
Malaxis liliifolia, Swtz.
Ophrys liliifolia
Malva rotundifolia
Marubium vulgare*
Medicago lupulina
Mentha viridis*
piperita*
pulegium
borealis
Mikania scandens
Eupatorium scandens
Mimulus alatus
ringens
Mitchella repens
Mnium cuspidatum
rosaceum
Monotropa uniflora
Morus rubra
alba*
Mucor mucedo
cespitosus
Myosotis scorpioides
Myrica cerifera
Neottia æstivalis
Ophrys æstivalis
cernua
O. cernua
pubescens
satyrium repens
Nepeta cataria

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† Species nova.

Nephrodium, Mich.
polypodium, Auct.
cristatum
filix fœmina
marginale
Noveboracense
tenue
Nyssa aquatica
biflora, Mich.
integrifolia, Act.
villosa, Mich.
multiflora, Wang.
Œnothera biennis
parviflora
Ophioglossum vulgatum
Orchis ciliaris
spectabilis
Ornithogalum umbellatum*
Orobanche Virginiana
uniflora
Osmunda cinnamomea
interrupta
regalis
Oxalis acetosella
violacea
Panicum crus-galli
sanguinale
dichotomum
viride
Pastinaca sativa*
Pedicularis canadensis
gladiata
Peziza lentifera
punctata
Phallus impudicus
Phryma leptostachya
Physalis Pensylvanica
Physcia islandica
Phytolacca decandra
Pinus strobus
rigida
resinosa, Act.
canadensis
abies canadensis, H. P.
Pisum maritimum
Plantago lanceolata
major
maritima
Platanus occidentalis
Poa annua
pratensis
compressa
trivialis
Polygala verticillata
incarnata
Polygonum arifolium
aviculare
hydropiper
lapathifolium
Pensylvanicum
sagittatum
scandens
persicaria
Polypodium vulgare
Polytrichum ambiguum
Pensylvanicum
Populus grandidentata
heterophylla
tremuloides
Portulacca oleracea
Potentilla canadensis
reptans
simplex
fruticosa
Prenanthes muralis
altissima
Prinos verticillatus
Prunella vulgaris
Prunus cerasus*
serotina
Pteris aquilina
Pyrola rotundifolia
maculata
umbellata
Pyrus communis*
malus*

Quercus alba
obtusiloba, Mich.
stellata, Willd.
prinos
Q. prinos palustris, Mich.
montana, Willd.
Q. prinos monticola, Mich.
rubra
tinctoria
palustris
coccinea
Ranunculus acris
sceleratus
Pensylvanicus
Rhexia Virginica
Rhus copallinum
glabrum
typhinum
vernix
radicans
toxicodendron
Ribes grossularia*
rubrum*
floridum, Willd.
Robinia pseudacacia*
Rosa Carolina
Pensylvanica
rubiginosa
lucida
Rubus occidentalis
odoratus
trivialis
villosus, Ait.
vulpinus, Desf.
Rumex acetosella
acutus
crispatulus
Sagittaria graminea
latifolia
sagittifolia
Salicornia Virginica
Salyx conifera
longirostris, Mich.
incana
Caroliniana
Salsola kali
Sambucus canadensis
Saxifraga Pensylvanica
Virginica
Schœnus albus
glomeratus
Scirpus sylvaticus
triqueter, Mich.*
Americanus, Pers.
capitatus
lacustris
Scutellaria lateriflora
Senecio hieracifolius
Setania trichodes
Sida abutilon*
Silene Pensylvanica
Sysimbrium nasturtium
Sysirinchium anceps
Smilax glauca
laurifolia
caduca
Solanum nigrum
Solidago virga aurea
canadensis
noveboracensis
Sonchus pallidus
palustris
Sparganium erectum
Sphagnum vulgare, Mich.
latifolium, Hedw.
Stachys aspera
Staphylæa trifoliata
Statice limonium
Tanacetum vulgare*
Teucrium canadense
Virginicum
Thalictrum rugosum
Thlapsi bursa pastoris
Thuya occidentalis
Thymus Virginicus
Tilia Americana
Trachynotia cynosuroides, Mich.
dactylis cynosuroides, L.

polystachya
Trichostemma dichotoma
Trientalis Europæa
Trifolium arvense
pratense*
repens*
Triosteum perfoliatum
Typha angustifolia
latifolia
Vaccinium glaucum
resinosum
Pensylvanicum
frondosum
Veratrum viride
Verbascum thapsus
blattaria
Verbena hastata
urticifolia
Vernonia noveboracensis
Veronica Virginica
serpylifolia
Virburnum acerifolium
dentatum
prunifolium
lantanoides
Vicia parviflora
Viola cucullata
palmata
pedata
primulifolia
pubescens
sagittatata
lanceolata
Vitis labrusca
vulpina
riparia
Ulmus Americana
Umbilicaria vellea
pustulata
Urtica divaricata
Uvularia perfoliata
sessiliflora
Xanthium orientale

V.

On the good Effects of the TINCTURE *of* CANTHARIDES *in* TETANUS: *In a Letter to Dr.* WILLIAM CURRIE, *from Dr.* WILLIAM GARDINER, *and communicated to the Editors, by Dr.* CURRIE.

Darby, May 18th, 1803.

DEAR SIR,

A LETTER which I received from Dr. Moses Sheftall, dated, Savannah, April 18th, 1803, relates the good effects of the tincture of cantharides in two cases of tetanus. An account of them, I imagine, will be acceptable to you: The doctor has given permission to communicate them to any medical body, should your judgment conceive them worthy.

"On the 8th of August, 1802, I was called to visit a negro woman of about twenty-six years of age, slender make, said to be ill of fever; on examination, I found there was little or no fever, but that her head was drawn back, and frequent spasmodic twitches, great rigidity of the neck and back, jaw somewhat contracted, muscles of the face much affected, producing that countenance usually attendant on this disease, and which I would call the *false smile*;) this symptom, says Dr. Cullen, is one among the last that comes on; I have, however, generally observed it among the first;) bowels in a natural state. Having been disappointed by the various modes recommended by authors, I was induced to try the tincture of cantharides, as recommended by Dr. Brown, and began by giving immediately ten drops every two hours, in a small quantity of cold water; and ordered the neck and back to be well rubbed with mercurial ointment. On the 9th, finding her spasms still considerable, but not so frequent, I ordered the dose to be increased to fifteen drops every two hours, and the unguent continued. During the twenty-four hours she took about a pint of good wine, (she is accustomed to drink very freely); on the 10th, found the spasms less painful, and the return less frequent; ordered the drops increased to twenty, every two hours. She has regular stools every day; continued the ointment.—11th. Complains somewhat of her mouth, think the mercury has affected it; the spasms have abated very considerably; no particular effect observed from the use of the cantharides, although she has taken one ounce of the tincture, except a considerable flow of urine, but without any difficulty or pain in passing; ordered the medicines to be continued.—12th. Spasms nearly altogether gone, and at 2 P. M. complained much of her bowels, and has had several stools with slimy appearance; ordered the tincture every four hours, injections of rice or common gruel, a strong decoction of flax seed and gum arabic for common drink. The spasms do not affect her more than once or twice in two or three hours, and that but lightly; the jaw still contracted, but no difficulty in swallowing, an aversion to eat, as her mouth is somewhat sore, but no evident increased discharge of saliva.—13th. The spasms relieved, except some stiffness of the jaw, her stools consist chiefly of blood, with violent pains in the bowels, the soreness of her mouth has left her; in consequence of the pains in her bowels and bloody stools, ordered three grains of calomel, with one of opium, every three hours, until relieved, and a continuance of emollient injections, with some drink as yesterday.—14th. All spasmodic symptoms have ceased, the violent pains of the bowels and bloody stools totally left her, but complains of her mouth, although no ptyalism. This ends the history of the first case. In my notes I find the following query: From the analogy between this disease and hydrophobia, might not the same method of treatment prove more beneficial than any one hitherto adopted. The time for exhibiting the tincture in hydrophobia, I think might be about the time when the pain begins to shoot from the bitten part, and in case that should be healed up and forgotten, I would advise the commencement of its use as soon as the throat appeared to be affected.

In the case above related, some may, or would attribute the cure to the mercury, but having seen it frequently fail when its effects were more evidently shown in the system, I would attribute the cure to the tincture.

Impressed with this idea, during the last month, I was called on to visit a negro boy, labouring under a more violent attack than the above case, for his jaws were so contracted that a tea-spoon could hardly be put between his teeth, and the difficulty of swallowing so great, and his owners so satisfied that he must die, that I thought this a good opportunity of giving the flies a fair chance. Accordingly, I ordered him ten drops every two or three hours, in as much water as he could be made to swallow at a time, which was not a small table-spoon full, and used no other remedy. When I first saw him his groans were truly distressing, but on the third day after using the flies, he became free from pain, and the spasms gradually left him: he is now well and hearty, without taking any other medicine whatever; he never had any bloody stools, although he continued the tincture for eight or ten days. This, then, is a fact pointedly in favour of Dr. Brown's remedy."

Thus, my friend, I have given you an extract of the two cases of tetanus he mentions in his letter; and as I am convinced that any medical information will be acceptable, let it come from whence it will, I will make a few more extracts from his letter:

"Our last fall has proved fatal to many: the disease was very similar to yellow fever, and the mode of treatment much after the plan of Dr. Rush; and though by some practitioners no blood was let, nor any calomel used, yet there were with them as many fatal cases as with the others. The cold bath had no more success than if not used at all. The mode of applying the cold was to wrap the head and extremities with wet cold cloths."

The doctor observes in another part of his letter, that "Tetanus is one of the most formidable diseases we have to contend with, and one in which there has been the least success in treating it. I have lately seen a publication of some medical gentleman who recommends bleeding; it is either my worthy friend Dr. Rush, or some of his followers. Although I believe there is no man breathing who holds that distinguished professor in higher esteem than myself, still, with respect to bleedieg in this disease, I think he is in the dark: although he may suppose the spasm can be relieved by blood letting, yet I have seen it tried to the fullest extent, and all the advantage that appeared to be derived from it was, that the patient went out of the world with some degree of ease. In the Medical Repository, vol. 4, p. 337, you will find a case related by Dr. S. Brown, of Kentucky, of a cure performed by the tincture of cantharides."

I remain your friend,
WM. GARDINER.

Dr. CURRIE.

VI.

OBSERVATIONS *on the* DISEASES *of* TALBOT *County*, (*state of Maryland*,) *in a letter from Dr.* E. MARTIN, *of Easton, to Dr.* WILLIAM CURRIE, *of Philadelphia. Communicated to the Editors, by Dr.* CURRIE.

Easton, Nov. 8, 1810.

DEAR SIR,

IT is really incumbent on me to apologize for my seeming inattention to your very polite letter of the first September. I had an unusual pressure of professional business very shortly after I had the pleasure of seeing you in Easton, which enables me to remark, that the same routine of diseases have taken place this year as takes place every year on this peninsula, as I have had occasion to *observe for seven and twenty years* in Talbot county, of which Easton is the county town. Methinks I hear you say, or some other person less conversant with the sick, "What? the same every year." Yes, every year, and only varying in some irregular symptoms, or their malignancy, at the same time making allowance for the state of the weather, as to moisture and dryness, heat and cold!

The weather here has been variable, but more generally cool than I ever knew it, from the middle of last June until the first and middle of September, when it became very close, sultry and oppressive. Rains were frequent throughout the latter part of June, all July, and a good part of August, attended, in the early part of the season more especially, with much lightning and thunder. Intermittents and remittents commenced early in July, which is a circumstance not frequently to be observed here. In August, catarrhs were frequent, while intermittents and remittents kept a steady course, except as they were occasionally intercepted by colds or catarrhs, which, in many cases, were attended with pleuritic symptoms, and required rather a free use of the lancet. But few dysenteric cases occurred, and the few that did occur were slight, and readily yielded to cathartic remedies without the use of the lancet, which is not the case every season. It will be right and proper to observe, that I have long considered the dysentery, so called, only a symptom of our intermittents and remittents, which are most generally attended with great discharges of bile from the stomach and bowels, if evacuants are neglected in the early stages of these diseases. When irregular action is produced in the bowels, let it be called *dysentery*, for I have observed more than an hundred times all these symptoms occurring in the same patient in the course of eleven or fourteen days, so that at the commencement of the disease it would be called ague and fever, in three or four days after, a bilious remittent, then a dysentery, and terminate in a simple tertian. I observed that catarrhs were frequent in August, and, I might add, some few cases occurred throughout September. Here also I must observe, that while intermitting and remitting, "*bilious*" fevers were raging in some families, a pleurisy would occur, *e. g.* in one large family, three fourths of the whole number were taken in August with intermittents or remittents, attended with distressing *bilious* symptoms; at the same time a young woman of delicate habit had a few paroxysms of an intermittent, which were slight, and little noticed in the midst of cases of more importance, when unexpectedly, on the 13th, she was seized in the night with a *pleurisy*, which yielded with difficulty to four or five bleedings. As might be expected, she was not a little debilitated, but was recovering rapidly, when, to our surprise, an intermittent again came on, which soon assumed the type of a remittent, accompanied with great nausea, and excessive discharges of bile from the stomach during the paroxysms of the fever, which were mitigated by opiates, and finally relieved by repeated doses, of calomel principally. But, to our amazement, after being on the recovery for a week or ten days, she was again seized in the night with a violent ague, followed of course by a fever, and *a pain in the side*, attended with an incessant cough! What was to be done with a delicate patient, weakened previously by two or three attacks of severe disease? I bled her on the 20th of September, and repeated, as occasion seemed to require, once or twice, and she recovered perfectly, as I witnessed yesterday.

As happens almost every autumn, so it has been the case this year, that some few cases of "*yellow fever*" have occurred! *Yellow fever* did I say! Why in the year 1797 or 8, a young man who had attended hundreds of cases of the *true genuine* "*yellow fever*" in Philadelphia, came to Talbot, and pronounced his own case, and the case of every other patient that he saw, neither more nor less than the "*yellow fever*," and some of them of the first magnitude or "*malignancy*." September 20th, I was called to William Trippe, in his eighteenth year; the day before (on Sunday) his uncle saw him, and took a small portion of blood from him, in a violent fever; the next day (Monday) I saw him about nine o'clock; I was informed by his father, that on Saturday he attended a review of militia, on a very sultry day, being a little indisposed before he left home; that night he had a violent fever, and, as I observed, Dr. Trippe the next day bled him, and gave him a dose of calomel, which had operated feebly when I saw him on Monday. I saw a storm arising, and would have bled him profusely if I could have staid three hours with him, for then I should have witnessed not a storm, but a *conflagration*, which terminated his existence on Tuesday morning early! Here was excitability and dreadful excitement! During October but few new cases occurred, but a great number of relapses, and even now a great number of pale, yellow and cadaverous countenances present themselves, except in those cases which were well treated; and quantities of bark were given, which has been the *sine qua non* this year, always has been, and always will be, before the stomach is disordered, or after it is composed, and an intermission or remission of fever has taken place. This season I have taken myself an ounce of bark a-day for several successive days, which, no doubt, prevented two severe attacks, for I felt it, as the vulgar say, in my bones; that is, I felt a predisposition, which was indicated by loss of appetite, great lassitude, restless nights, &c. while at the same time, I was riding every day from 20 to 60 miles. The year 1807 was the most sickly season I ever knew, and this (1810) is the next to it in degree. To you, who have rode through a good part of the peninsula, the cause of its unhealthiness must be obvious, and the varying degrees of unhealthiness must depend on the causes which generate the cause of disease or fever.

With sentiments of very great respect and esteem,
I am, your friend and humble servant,
ENSALL MARTIN.

VII.

TOPOGRAPHICAL SKETCH *of the county of* ONTARIO, *in the state of New-York. Communicated for the Register, by* REUBEN HART, *Esq.*

The county of Ontario, in the state of New-York, is bounded on the west by Genessee river, which divides it from the county of Genessee, on the north, by lake Ontario, on the east, by the county of Seneca, on the south, by the county of Steuben, and is about forty-five miles square. In this county are the following lakes: Canandarque, Canesus, Hemlock, Long, Hanyaya, and part of Seneca and Crooked lakes. *Bays*—Cutantequet, and part of Great Sodus, both on lake Ontario, Great Sodus on the north east corner of the county, and Cutantequet four miles east from the mouth of Genessee river. *Rivers*—Genessee river is the largest in the county, it takes its rise in the county of Steuben, and runs, in a north easterly direction, to lake Ontario; in its course, it receives the waters from the lakes Canesus, Hemlock, Long and Hanyaya. Mud creek is the next in size, it heads west of Canandaigua lake, its course is north-easterly, unites with the waters of Canandaigua outlet, and passes out of the county about twelve miles south of Great Sodus. Cutantequet takes its rise about twenty miles south of lake Ontario, and runs north, and empties into the bay of the same name nine miles from lake Ontario. Besides these, however, there are other small streams.

This county is part of a tract of country purchased by Oliver Phelps and Nathaniel Gorham, Esq.'s in the year 1789, and is situated between 3 degrees and 45 minutes west longitude, from the city of New-York, and between 42 degrees and 36 minutes, and 43 degrees and 22 minutes north latitude. The face of this country is beautifully diversified with low ridges or gradual swells, which form handsome upland and meadows; the land is fertile, producing wheat, indian corn, rye, oats, buckwheat, beans, peas, &c. Perhaps there is no part of America where fruit grows to such perfection; and the apples, peaches, pears, plumbs, apricots and nectarines, I think superior to any other in America. The rapid emigration to this place proves in some degree the fecundity of the soil; it is but nineteen years since the first permanent settlement was made, and, according to the census taken last year, there were 4889 electors; there are 22 towns, and about 25000 inhabitants. There are but few natural curiosities in this county; the falls in Genessee river may be considered as one, the first is 95 feet, the other 70.

The streams of water in this county flow with considerable rapidity; there are no extensive swamps. The several lakes which are here add greatly to the beauty and convenience; the water is pure, affording abundance of fish.

Medical springs. In the town of Farmington, nine miles north-east from the town of Canandaigua, is a sulphur spring, issuing from a small hill, which, after running a short distance, deposits sulphur in large quantities: the water of this spring appears pure and clear to the sight, and emits a sulphureous smell, which may be perceived at a considerable distance. To this spring many people resort for pleasure, as well as for the benefit of the medical qualities, which appear to be of considerable service in cutaneous eruptions and rheumatic complaints. A salt spring has been discovered in the town of Northfield, distant about one mile and a half from lake Ontario. The salt of this spring is of a superior quality, and about twelve bushels are made in a day; the works probably may be extended, and become a source of profit to the proprietors, and beneficial to the community.

Trees. Our forests abound with a great variety of trees, among which are, the white oak, black oak, swamp oak, sugar maple, hemlock, pine, cedar, cypress, chesnut, hickory walnut, black poplar, elm, buttonwood, white walnut, boxwood, white ash, black ash, basswood, wild cherry, sassafras, aspin tree, (the popula tremula) and many others.

Shrubs and medical plants. Black alder, dogwood, sumach, elder, sarsaparilla, angelica, blackberries, whortleberries, avens, (caryophyllata) pennyroyal, raspberries, rattlesnake root, solomon's seal, common sorrel, wood sorrel, yarrow, wake robin, balm, white hellebore, black, or bastard hellebore, eyebright, arsmart, buckthorn, birthwort, adder's tongue, agrimony, arum, bitter sweet, fern, male and female, common daisey, burdock, calamus aromaticus, colt's foot, cowslip, water cress, dandelion, nightshade, dock, water dock, ginseng, honey suckle, wild hop, jerusalem oak, ipecacuanha, knot grass, leeks, white lily, maiden hair, mandrake, majoram, masterwort, may weed, mother wort, mugwort, lobelia, mushroom, purslain, st. john's wort, seneca root, shepherd's purse, spikenard, water flag, golden root, cinquefoil, nettles, sweet cicely, ivy, male speedwell, scabious, wild valerian, celandine, and many others, which are indigenous to this county.

Stones. The principal part of the stones in this county are calcarious. Argillaceous grit stone, in which fragments of quartz are united, which prove to be useful for mill stones, nearly equal to the burr stones, are found in great plenty scattered throughout the county; also another kind is found in quarries. The magnitude of the fragments of the quartz are better; they are used for grindstones.

Soil. The soil in this county is various, the clay loam and sand may be found in the same field; a species of marl composes a considerable part of the soil in this county.

Diseases. The diseases that have been most prevalent in this county, are the intermittent, bilious and typhus fevers; the two first are frequent in summer and fall, the typhus prevails most in winter. It is not confined to any place, but pervades every where; the old, middle aged, and children fall before it. When the two first diseases attack those who live contiguous to ponds, rivers and low lands, and in seasons most favourable to the production of marsh miasmata, may we not with propriety conclude that typhus fever arises from a different cause? Among us it is evidently contagious.

REUBEN HART.

Canandaigua, May 1, 1808.

VIII.

CULTIVATION *of* NATURAL HISTORY *in the University College of New-York. Communicated for the Register, by a Correspondent.*

I NEED not tell you that already the universities of Massachusetts and Pennsylvania have created professorships of natural history. New-York has done the like. Since I have been here I have attended to the course taken by Dr. Mitchill, the professor of this extensive department of science. In the remarks I shall make to you, I shall confine myself to the three sections comprehending minerals, vegetables, and animals.

In giving the history of the component parts of the globe, Professor Mitchill found it necessary to depart from the quadruple method of Bergman, distributing the inanimate materials of the world into earths, salts, metals and inflammables. The recent discoveries in science imposed on him, the necessity of considering minerals under four other heads: these are,

1. As they are united to oxygen, constituting oxyds and acids; such as potash, soda, ammoniac, and all other calces of metals.

2. As combined with phlogiston, forming metals proper, and all other combinations with the principle of inflammability.

3. As being neither connected with oxygen nor phlogiston; as in massicot, flowers of zinc, and finery cinder.

4. As being associated both with oxygen and phlogiston at once, making such compounds as the mercurius præcipitatus per se.

When there are formed amalgams and alloys by union of metals with each other, such as glass, potter's ware, bricks, brass, pewter, coin, and all other metallic mixtures, they are all to be referred to the second class; and when, by the aid of sulphur, they form ores, it is to be understood, that if the metallic nature of brimstone shall be confirmed, then ores will also be placed among the metals proper, which, in this sense, will embrace, together with the metals in their ordinary forms, all the amalgams, alloys, and ores.

After he had finished the geological and mineralogical parts of his course, which he elucidated from his own select and ample cabinet of fossils, Professor Mitchill entered upon the vegetable kingdom. He discoursed day after day upon the anatomy and physiology of seeds, plants, and flowers; and when he had proceeded far enough at the college in town, he adjourned to meet his audience at the botanical garden of Elgin, about three miles in the country.

There, in the presence of his numerous auditors, he demonstrated the component parts of the flower, and developed the principles of the Linnæan system.

While, however, he adhered to the doctrine of sexes in vegetables, and commended the method that had been founded thereon, he considered the disposition of the classes to be very faulty. There was, he said, something very preposterous in commencing the sexual classification with hermaphrodite plants, and placing at the end, and almost out of sight, those vegetable species in which the discriminating marks of male and female were most evident. In unfolding an arrangement erected upon the characters of the sexes, those in which such distinctions were most evident ought to have priority.

To this, however, he made an exception of the orders of fungi, algæ, musci, and filices, constituting together the class of cryptogamia. These it would be proper to place first, that the student might be made acquainted with them early. He would thereby immediately learn how to distinguish between those whose organs of fructification were very minute and obscure, and such as are endowed with large or conspicuous flowers. There is another reason for placing them in front, and that is, their nearer approach to the mineral kingdom.

The classes, therefore, he disposes in this manner, to wit:

1. Cryptogamia, including the vegetables least elevated above fossils; such as the mushrooms, flags, mosses and ferns. These being disposed of, he considers,

2. The Diœcia, or class of plants having the sexes on different and distinct individuals; such as the willow, crow-berry, misletoe, candle-berry, spinach, hemp, hop, poplar, juniper, yew, and others of that constitution. He proceeds next to,

3. Monœcia, or that body of vegetables in which the sexual organs are attached to an individual of the species,

but in separate and remote parts thereof. After having become confirmed in the doctrine by an examination of the plants belonging to the preceding class, the transition may be safely made to those appertaining to this. By attending to them, the botanist becomes acquainted with maize, bread-fruit, duck-meat, cat-tail, burr-reed, job's tears, sedge-grass, birch, box, nettle, amaranth, wild-rice, burnet, oak, walnut, beech, hazle, buttonwood, sweet-gum, pine, arbor-vitæ, cypress, tallow-tree, cassava, palma-christi, balsam-apple, gourd, cucumber, bryony, and various others.

4. Polygamia. The passage is as easy and obvious as possible from such plants as are enumerated in the two foregoing classes, to those where in addition to the male and female blossoms on separate and distinct parts, there are likewise hermaphrodite flowers, including the two sets of organs within the same calyx or corolla ; so that male, female, and mixed inflorescence are combined in the several individuals of the same species: such are, the banana, hellebore, man's-beard, broom-corn, pellitory, orach, sensitive-plant, three-thorned acacia, ash, persimmon, maple, ginseng, sour-gum, fig, and many more.

Or if, according to the amendment proposed by Persoon, the polygamous plants are to be referred to the other parts of the system, and that class abolished, there will be the most strict propriety and method in placing the dioicous and monoicous plants near the head, and not at the end of the list. For nobody, of late, seems to wish with Schwartz, to expunge the classes of monœcia and diœcia as well as polygamia.

The learner is thus introduced, in the most natural and easy manner, to an acquaintance with hermaphrodite flowers, and the plants which bear them. He then is prepared to enter upon class

5. Monandria. 6. Diandria; and, 7. Triandria, as they stand in the common arrangement.

But when Professor Mitchill comes to consider vegetables with four stamens, he distinguishes those plants in which these organs are *equal* from those in which they are *unequal;* and as there are two very distinct classes of tetrandrous plants, he places them near each other, as making a more natural arrangement, and affording a more striking contrast. Therefore, his 8th class is

8th. Tetrandria, and his 9th. Didynamia; placing as near to each other as possible, and in the most pointed apposition, the whole of the tetrandrous tribes.

10. Pentandria succeeds in the ordinary course.

Yet, when he views the hexandrous plants, he brings all the flowers having six stamens, at once under the eye; the *equal* filaments, as before, being contra-distinguished from the *unequal.* And that all the hexandrous families may be brought into one neighbourhood, his class

11. Is Hexandria; and his 12. Tetradynamia.

The other classes progress according to the order in which they now stand; the 13th. being Heptandria. 14th. Octandria. 15th. Enneandria. 16th. Decandria. 17th. Dodecandria. 18th. Icosandria. 19th. Polyandria. 20th. Monadelphia. 21st. Diadelphia. 22d. Polyadelphia. 23d. Syngenesia, and 24th. Gynandria.

During the discussion which took place on the history of the vegetable kingdom, Professor Mitchill made repeated visits, with his disciples, to the garden of Elgin, founded by Dr. Hosack, but now the property of the state. And, while he was occupied in the classification, description and discrimination of plants, it was observed, that the two promising young botanists, Dr. Caspar W. Eddy and Mr. James Inderwick, acted as his assistants ; the former, in demonstrating the marks peculiar to the species, and the latter, in expounding the characters which distinguish the genus, in the presence of the numerous attendants whom the occasion had led to embark in this delightful study. The purchase of this valuable establishment is not less useful to natural science than honourable to public spirit. The college of physicicians, who are curators in behalf of the regents, take every care that repairs are made to the conservatory, hot house and fences, and that the plants are well nursed and attended.

This innovating temper of the professor is not limited to systems of mineralogy and botany, he carries it with him into his zoology, and transposes the classes of animals with still greater freedom. He deems it immethodical and incorrect to place the *mammiferous creatures* first in the classification, and from them to travel downward through the intervening tribes to the *worms* and *zoophytes.* As an improvement upon this perplexed way of considering the subject, he goes from plants, by the most plain and ready transition, to the animals which border nearest upon them ; and from beings of this simple organization, he proceeds to those of the next degree of complexity ; then he passes to animals of a still more complicated structure, and proceeding upwards, step by step, he rises by a regular climax, as it were, first to the mammalia, and thence to man, as their chief or head. He follows in the main the system of Cuvier, who founded the classification upon their internal organization and anatomical constitution ; but he inverts and transposes it for the purpose of greater perspicuity. He begins, therefore, with the animals of the lowest grades; and the first class, according to his disposition, is that of

1. Zoophytes; and under this denomination, the branched productions resembling vegetables, and thence denominated animal-plants, horny-plants and stone-plants, such as the isis, gorgonia, sponge, coral, coralline, madrepore, and the microscopical animals that inhabit them, are the subjects of the earliest consideration; as are also, flukes, medusas, hydatids, and abundance of others.

2. Vermes or Worms. From the vermicular beings of the first class, he proceeds to worms, properly so called, and comprehended in the second class, whether they inhabit the moist ground, the fresh spring waters, or the briny floods of the ocean. The naids, the nereids, the aphrodites, and the amphitrites belong here.

3. Insects follow, innumerable and diversified as they are, in a neat and easy distribution.

4. Crustaceous animals or crusty-coats form the next class, comprehending all the varieties of crabs and lobsters, and the tribe of insects inhabiting shells.

5. Molluscas, or worms inhabiting shells. These embrace all the families of animals dwelling in univalve, bivalve and multivalve shells, as well as the cuttle fishes, nereids, squids, pipeworms, and many others.

6. Pisces or fishes, including all the creatures breathing with gills instead of lungs, under the two natural heads of cartilaginous and bony fishes.

7. Reptiles, or creeping creatures make the 7th class, and embrace in four subdivisions, the tortoises, lizards, snakes and frogs.

8. Birds make the 8th step in the gradation of animals, including all the land and water fowl, in six well defined orders.

9. Mammalia, or sucklers; the last and highest class of animals, containing the viviparous and mammiferous species, from the dolphin, whale, and seal families, through the carnivorous and herbivorous quadrupeds, and through the bat, vampire, mongooz, macauco, monkey, baboon and ape tribes, and including the wild and savage homo, unto the civilized man, the lord of the sublunary world.

While he was occupied in tracing the generic and specific characters of animals, he made adjournments day after day, from the college to the museum of Mr. Scudder, and there, in the midst of animal specimens prepared by that indefatigable collector, with the most exquisite touches of art, he gave practical lessons on the several classes of creatures, to an audience that entered fully into the spirit of the business.

In the course of these discussions, Professor Mitchill was remarked to draw the principal facts and illustrations from his own country and other parts of America; and derived examples as seldom as convenient from foreign regions, and places situated beyond the seas. He considered the western hemisphere as peculiarly rich in the materials of natural history. "It is here," said he, "that beauty, novelty and sublimity characterize creation to a much greater degree than in any part of the old world; and it is a fortunate occurrence for a student of nature, to be born in the United States, where the unexampled liberality of the government, and the unbounded field of inquiry, give the greatest encouragement to genius."

We ought to mention, that while he was engaged on *mineralogical chemistry*, he repeated the doctrine he had advanced orally to his audience, and had printed in his syllabus, during the year 1809, of the importance of phlogiston (or hydrogen) in the constitution of metals, affirming anew, that a little phlogiston, combined with much metallic matter, made a metal, while much phlogistous gas, (inflammable air) and a little metal, formed a combination peculiarly favourable to ascend into the atmosphere, and, by inflammation, to furnish the materials of meteoric or atmospheric stones. Productions of this kind, instead of being regarded as marvellous or supernatural, he considered as naturally and necessarily resulting from the present constitution of the atmosphere. It is pleasing to observe, that the doctrines on this subject, taught in our university college, more than two years ago, by Dr. Mitchill, have recently been inculcated in the royal institution of London, by Dr. Davy. We are gratified in a high degree, by witnessing such a happy coincidence of sentiment between our professor countenanced by the commonwealth of New-York, and the distinguished operator patronized by the king of the British.

It is worthy of being noted also, that among the communications made on the subject of zoology, was an original memoir, on a substance called buche-de-mer. It is an article of food procured from an animal of the ascidia family, in the ocean between the Cape of Good Hope and Cape Horn, by the Fredish navigators, who take it, preserve it, and sell it for a high price at the market of Canton. It is there received in lieu of silver. A specimen of one of these zoophytical animals was exhibited in its dried and preserved state. The equipment of ships for the purpose of collecting buche-de-mer at the antipodes, and of carrying it to China, is an example of navigating enterprize on the part of the New-Yorkers, which has nothing in history to exceed it.

To render his geology interesting and instructive, Dr. Mitchill has in his possession, a grand and extensive collection of the materials of our primitive rocks in the eastern regions, of the secondary strata at and around Niagara, from the western border, and of extraneous fossils from almost every memorable section of the United States.

REVIEW.

ART. I. *An* APPENDIX *to Thomas's Practice of Physic, by* EDWARD MILLER, M. D. *Professor of the Practice of Physic in the University of New-York.* New-York. Collins and Perkins. 8vo. pp. 697. 1811.

(Continued from page 103.)

According to our promise we resume the review of the Essay before us.

Dr. Miller informs us, that the agency of contagion is to be rejected for *ten* reasons. We are told of a certain mayor in France, who not having saluted the entry of a French monarch into the city over which he presided, with the discharge of cannon, went out to meet his majesty with a formal speech, for the purpose of informing him that he had ten reasons to offer why the discharge of cannon had been omitted: first, because they had no cannon; he was proceeding to his second, but the king interrupted him, and told him, that his first reason was sufficient, and he would spare him the trouble of mentioning the other nine. Right glad should we have been to discover any one among the doctor's ten reasons so potent as to spare us the trouble of examining the rest; but after all our labour, we have the misfortune to confess, that in vain have we diligently examined the ten to discover any one that ought to satisfy a mind seriously engaged in the pursuit of truth. That our readers, however, may judge for themselves, we shall proceed to set them in order before them, accompanied with a few remarks upon each as we go along.

No. 1. "No relation is observed between the source of the supposed contagion and the spreading of the disease to individuals or families; nor was there ever any successful attempt to trace in regular series, the propagation of it to any number of persons, from the first case, or from any single point of infection. If the first ten or twenty cases which occur in any season be strictly scrutinized, most of them are found in their origin to be distinct and independant of one another. Instead of gradually pervading, or creeping slowly from one neighbourhood to another in the tract of infection, as is invariably the case with contagious distempers, this disease is often found scattered at distant and unconnected points, and cases start up singly, in situations where contagion could neither be traced nor suspected."

We should hope that the single, unsupported assertions of Dr. Miller, or of any other party writer, is hardly to be received in the place of evidence; hardly to be considered of so unimpeachable a nature as to defy the contradiction of proof. The above statement we are compelled to declare is wholly unwarrantable. We might refute it by a multitude of familiar instances; by every case of the yellow fever that has been the subject of serious investigation. To produce them here, would fill not only a whole number of this work, but a volume: However, to put the fact beyond question at once and forever, we shall content ourselves, by introducing to our readers a few extracts from Dr. Miller's great authority, Dr. Rush, of whom Dr. Miller thus speaks, in the very appendix now under review. "Dr. Rush, who has treated the subject (in question) at much greater length, and who may justly be considered *as the leader in the investigation and establishment of the doctrines [of domestic origin] respecting that disease*, (yellow fever) which are now maintained by a great majority of the physicians in the United States."

That Dr. Miller should think the great majority of physicians were of his opinion, is not an unnatural mistake, but with that we shall not meddle at present; our business is with his assertions, and those of his confessed leader, Dr. Rush, of whose authority we avail ourselves, considering it the best way of settling the point in dispute, to appeal to the identical authority which is quoted with respect by our opponent himself.

" The first cases of the fever (says Dr. Rush) have been *clearly traced* to the sailors of the vessels who were first exposed to the effluvia of the coffee,"* p. 156. " The rapid progress of the fever from Water-street, and the courses through which it *travelled into other parts of the city*, afford strong evidence that it was at first propagated chiefly by exhalation from the putrid coffee," p. 155.

With Dr. Rush's coffee we have nothing to do. Dr. Miller has boldly and unqualifiedly asserted, that " *there never was any* successful attempt to trace, in regular series, the propagation of the yellow fever from any single point of infection ;" yet here we find his acknowledged leader declaring, that it was *clearly* traced to the sailors of a certain vessel; and further declaring, it was traced from Water-street, through which it travelled into other parts of the city. Dr. Miller has also asserted, that " no relation is ever observed between the source of the supposed contagion, and the spreading of the disease to indviduals." But Dr. Rush, (p. 157) says, " from three of those persons who came under my notice, the disease was evidently propagated by contagion ; from one of them, to nearly a whole family; from another, to a girl of eight years old." And again, he says, (p. 107) "Citizens thus impregnated with the contagion, communicated it in several instances to their country friends."

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* Rush's Account of the Bilious Remitting Yellow Fever, as it appeared in Philadelphia in 1793, 2d edit.

Another case must also be adduced, which at this moment occurs to us, and which we deem it the more proper to give, because it comes from a gentleman of Dr. Miller's own principles, and because he has himself recorded it in his own work, the Medical Repository, vol. 2, p. 402, which, therefore, he ought to have borne in mind if he did not, or if he did, he ought in common decency to have refrained from making the broad assertions, to which it is now offered in direct contradiction. In a letter to Dr. Mitchill, giving an account of the yellow fever in New London, in 1798, and where it never appeared before nor since, the writer states:

> "We ascertained with precision to be relied on, that the whole number of persons whose complaints clearly indicated the pestilential, or, as it is called, the yellow fever, did not exceed two hundred and forty-six; and I give it you as *a very important fact, on which you may rely*, that, of the above number, two hundred and thirty-one cases were *clearly traced to the spot where the sickness commenced*, that is, the patients were conversant, or had been in that part of the city a few days before they were seized."

And yet, Dr. Miller, with this very communication before him, and which he speaks of in high terms in a subsequent volume, had the hardihood to assert, that "no relation was observed between the source of the supposed contagion, and the spreading of the disease to individuals or families; nor was there ever any successful attempt to trace, in regular series, the propagation of the yellow fever from any single point of infection."

Let Dr. Miller reflect upon his broad assertions, let him consider the above, and reconcile them if he can. Dr. Miller ought to know, that in a work of science, and on a subject of such immense importance to our country, and more particularly to our city, a scrupulous regard for accuracy would better fulfil the expectations of the public, than rash and unqualified assertions in the very teeth of fact. Dr. Miller finishes by saying:

> "Instead of gradually pervading families, or creeping slowly from one neighbourhood to another, in the track of infection, as is invariably the case with contagious distempers, this disease is often found scattered at distant and unconnected points, and cases start up in situations where contagion could neither be traced nor suspected."

It is truly astonishing, it is in the highest degree painful, to find a man of sense and character, thus desperately attempting to impose his own unqualified, unsupported, and unsupportable statement upon the community, in the place of facts. We can truly say, that ever since the origin of the yellow fever began to be more particularly and carefully investigated here, that is, since the year 1794, we have uniformly found facts directly the reverse of what is above stated; and we may safely appeal to the publications of the time for the correctness of this assertion.* Uniformly has the disease been found to have gradually pervaded families, and to have slowly crept from one neighbourhood to another in the track of infection; nor do we recollect that ever we heard of an instance, scattered at a distant and unconnected point, which could not satisfactorily be traced to the source of the disease, or communication with the sick. In support of this fact, we beg leave to make the following extract from the address of the Board of Health, issued on the 12th of September, 1805.

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* Vide the "Opinion of the Medical Faculty of Baltimore relative to the yellow fever of 1800," all of whom are non-contagionists; yet they say, "the *gradual manner* in which this disease becomes epidemic is an additional proof that it is *not* derived from foreign sources."—*Med. Rep.* vol. 4, p. 354. This is very well—the same conclusion from opposite premises!

> "The Board have formed a decided opinion, that the principal seat of the prevailing disease is that part of the city included between Burling-slip and Old-slip, as far west as Pearl-street. Almost all the cases of disease which have occurred, can be *distinctly traced to a communication with that part of the city.*"

But let us once more hear what Dr. Rush, the pride of Dr. Miller's sect, has said on this point.

> "For a while this fever was confined to the above mentioned part of the city, but the disorder is spreading, and now appears in other places, so that several are affected in other parts of Water-street; some in Second-street; some in Vine-street; some in Carter's alley; some in other streets; but, in most cases, *the contagion can be traced* to Water-street." p. 19.

In order to strengthen his proofs, that the yellow fever is not contagious, Dr. Miller says:

> "The proportion of single cases in the midst of families is always great, and the instances of any large portion of families being attacked, were comparatively very rare in the last epidemic."

But the case is imperfectly stated. To have enabled the writer to draw his inference, he ought to have gone further, and told us, that after the attack of an individual in a family, the remainder of the family still continued to reside in the same house; but it is well known, that the directly contrary was the case. The alarm given by the attack of an individual was so great, that the rest of the family generally made their escape as soon as possible, leaving the sick to the care of a single nurse; some few instances excepted. And this abandonment of the sick is one item of accusation brought by the Medical Repository against contagionists; considering it a consequence of their doctrine. But we are saved the trouble of refutation, for by turning back only two pages, we shall find the doctor refuting himself.

> "It is proper (says he, p. 662) to premise, that the attack of many persons in the same neighbourhood, or even of whole families by a reigning disease, affords no proof of contagion."

Thus, in one page he tells us, that the agency of contagion in yellow fever is to be rejected, because, among other reasons, "the instances of any large portion of families being attacked with it were comparatively rare;" and in another, he maintains, that "the attack even of whole families by it, affords no proof of contagion."

But to proceed:

> "In order to explain this scattered, remote, and unconnected occurrence of cases, the advocates of contagion are obliged to resort to the extravagant supposition of the contagion being diffused through an extensive range of atmosphere by the effluvia of the sick."

By any one not acquainted with the licences habitually taken by Dr. Miller, this would be regarded as a piece of no ordinary assurance. When, we demand, have the advocates of contagion resorted to such an hypothesis to account for such facts? So far from it, they have never even admitted the existence of such facts; they are only to be found, we aver, in the artful misrepresentations of Dr. Miller. The only instance we ever heard or read of, that comes any where near this statement of remote cases caused by contagion being diffused through an extensive range of atmosphere, is to be found in a letter from Dr. Miller's friend and guide, the celebrated Dr. Rush, to the citizens of Philadelphia, published by him in the fever of 1793; and in which he attempts to account for the yellow fever's making its first appearance at Kensington, which, he says, was generated and received on board a Danish ship, by putrid coffee, as she lay at Race-street wharf, in Philadelphia, about three miles off.

> "Upon inquiry (says the Dr.) it appears, that the first person who died with this fever, about the 5th of the month, in that village, had been previously exposed to the atmosphere of the wharf; [between Arch and Race-street] and that three of the crew of the Danish ship, who are now ill of the disease at Kensington, received the seeds of the disease on board their ship, while she lay at or near Race-street wharf. If these facts could not be ascertained, it does not follow, that the disease was not generated by the coffee; for, morbid exhalations, it is well known, *produce fevers at the distance of two and three miles*, where they are not opposed by houses, woods, or a hilly country."

Thus saith Dr. Rush; and if he had been speaking of remittent fever, we should not perhaps have any dispute with him about the fact, but it is the specific yellow fever he is speaking of; and we venture to say, that he is perhaps the only man on record who has ever attempted to explain such "remote cases" in such a manner. Let not Dr. Miller then attempt to palm such fancies on the advocates of contagion; it is the physician he boasts of, as one "who may justly be considered as the leader in the investigation and establishment of the doctrine," [domestic origin and non-contagion] to whom it is attributable. By the way, in this compliment, (as, doubtless, Dr. Miller considers it,) there is, we fear, more of flattery than truth, for Dr. Rush is not the leader; on the contrary, while others were strenuously contending for such doctrines, Dr. Rush published the first edition of his works, for the purpose of maintaining and propagating the diametrically opposite doctrine. Nay, so far did this distinguished physician then carry his ideas of contagion, as seriously to maintain, that the yellow fever was conveyed across a street of one hundred feet in width; that one man took the fever from another sick of the dysentery, and that two cats were infected by licking some milk that a patient had thrown up. But a little flattery sometimes does wonders. After all, who but must experience some small astonishment at the effrontery of the man, that, after ascribing to the contagionists an opinion advanced by his own acknowledged leader, proceeds to ridicule it as an "extravagant supposition," to brand it as a "new and inadmissible doctrine, utterly repugnant to all the principles and laws of contagion," and "inconsistent with itself?" Dr. Miller, having thus sufficiently ridiculed the above opinion, finishes the paragraph by giving his own. Here it is, and let him who reads stare with what wonder he may.

> "Nothing can account for this local, stationary, inexhaustible poison, but the exhalations from the masses of filth and corruption overspreading a large area of ground, forming a vast hot bed of putrefaction, incessantly teeming with miasmata, and thereby, in despite of currents of air, loading with the seeds of disease every successive portion of atmosphere that sweeps or stagnates over the pestilential surface."

Thus, then, the yellow fever is disposed of once and forever. In the first place it is a poison, although, according to the same gentleman and his party, it is nothing more than a higher grade of our common bilious remittent; here it is however not only a poison, but it is a local poison, a stationary poison, and an inexhaustible poison. It is *local*, because it makes its appearance in some place or other; and this must be granted. It is *stationary*, because it never moves; it is once in New-York, and always in New-York; and it is *inexhaustible*, like a grain of musk, because——because the more it poisons the more it may; it never ceases to poison whoever comes in its way. It is the true object of a definition to point out wherein the object agrees with, as well as wherein it differs from all other objects: Hence the precision as well as eloquence of this paragraph. Nothing can account for such a terrible poison, we are informed, but exhalations from masses of filth and corruption overspreading a large area of ground (witness ye people of New-York, Philadelphia and Boston!) forming a *vast* hot-bed of putrefaction, (witness, O! ye inhabitants of New-Haven, Haddam, and New-London; of the Wallabout, Brooklyn, and Amboy!) incessantly teeming with miasmata, [bringing forth little atoms,] and thereby, in despight of currents of air, [and common sense,] loading with the seeds of disease every successive portion of atmosphere that sweeps or stagnates [pretty alliteration!] over the pestilential surface."—Yes, the pestilential surface of the sandy shores of the Wallabout, of Brooklyn, and of Amboy! Well might the learned and elegant Chisholm exclaim, on reading the above passage in Dr. Miller's Essay: "Such hyperboles are unworthy the man who affects accurate observation and acute discrimination. As well might he, with the poet, describe the approach to the infernal regions to be the eastern shores of the Manhattan:

> "Vestibulum ante ipsum primisque in faucibus Orci,
> Luctus et ultrices posuere cubilia curæ:
> Pallentesque habitant morbi, tristisque senectus,
> Et metus, et malesueda Fames, et turpis egestus,
> Terribiles visu formæ."

And he justly observes, that "the very labour bestowed on this picture of local contamination manifests its absurdity." "When we compare this (he adds) with many known instances of accumulations of filth in the cities of other countries, from which no such consequences result, even towns within the tropics, we must be satisfied that the whole is the fabrication of Dr. Miller's fancy."

Dr. Miller's second reason for rejecting the agency of contagion in yellow fever, is because, as he says,

> "The pretended contagion is admitted to produce no effect in our climate, except in particular situations, at a particular season of the year, when an impure and noxious atmosphere, which ought to be considered as a sufficient cause, is acknowledged to exist. But, (says he) to consider a disease as contagious, which at the same time exhibits no appearance of that quality but in certain climates, and in such climates only in certain places; at such places only in certain seasons, and even at such seasons only after a particular degree of heat and moisture, is undoubtedly to lose sight of all the established properties and laws of contagion."

All this is easily said; but it is sometimes much easier to pen a flippant assertion than to prove it afterwards. And to do the doctor justice, he has not, in the present instance, even attempted it. What Dr. Miller means by contagion we know not; but according to the definition given of it by Dr. Hosack, in No. I. Vol. II. of the Register; a definition more accurate, precise and satisfactory than any we have yet seen, and which we therefore fully adopt, we cannot, at all, understand how it is at variance with the laws of contagion to consider the yellow fever as a contagious disease. For instance, why may not a disease be considered as contagious because it is so only in certain climates? Though this, by the way, is only another of the artifices which abound in this Essay;

for nobody has contended for such a qualification in the case under consideration; but admitting the fact, what then? Why may not such a disease be contagious? No one, we presume, will contend that the sibbins, or the laanda, or the yaws, or the leprosy, or the plica polonica, are not all of them contagious diseases: Yet the first is only found in Scotland, the second in Africa, the third in the West-Indies, the fourth in Asia, and the last in Poland. The third of them only appears in the low countries, never in the mountains. As to the pretence, that the contagionists admit that the yellow fever is only contagious after a particular degree of heat and *moisture*, it is wholly unfounded.

3. "It is admitted, (the doctor proceeds) that the disease does not spread when the sick are removed from the impure air in which it was contracted. By breathing this impure air, without exposure to the effluvia of the sick, persons are every day attacked; while, on the contrary, without breathing it, however exposed to such effluvia, no person is attacked. The conclusion, therefore, is irresistible, that the impure air is the cause."

In the first place, we do not by any means make the admission to the extent here stated. On the contrary, in our last, we published a letter from Dr. R. C. Moore, containing a circumstantial account of the deaths of no less than five different persons on Long Island, all of whom received the yellow fever there, in the country, by contagion from the sick who came there ill, from town; and the narrator himself also received it from a gentleman who took it in town, where it prevailed, and removed into the country, where he was confined "in an airy, well ventilated chamber, surrounded with every comfort which the tenderness and opulence of his parents could bestow."

We shall once more take the liberty of presenting, also, a few cases to Dr. Miller's notice, extracted from his own work, the Medical Repository, vol. 3. p. 8. It is taken from a dissertation, by Lyman Spalding, lecturer on chemistry, &c. &c.

> "Since reading the above dissertation, I have seen Dr. Rand's observations to the A. A. S. on the same subject, (yellow fever in Boston in 1798) in which, he seems to think the fever *was not contagious from the diseased.* With due deference to the opinion of so good a man, I must beg leave to add the following cases in support of my former opinion.
>
> "My brother, hearing of my sickness, came twenty miles to my assistance, remained in my chamber almost continually for sixteen days, taking the sole care of me. About two weeks after his return, he was attacked with the fever, no other person within three miles being affected.
>
> "In Windsor, a Miss Bailey was very severely attacked, in the sickly part of the town, three miles from her fathers; an elder sister came to her assistance, and was immediate nurse until she recovered. On her returning home, she was herself attacked, and died. Another sister, who was *her* immediate nurse, and had seen no other person labouring under the disease, nor been in the infected part of the town, was also attacked, and died."

Lastly, we beg leave to present an extract from *Addoms' Dissertation*, containing the following facts, as communicated by Dr. William Moore; whose testimony, Dr. Miller will not, we are sure, in common gratitude, dispute; for Dr. Moore was the first gentleman on the list of physicians in this city, who once published a most delectable address to Dr. Miller, for the very memoir on malignant fever, now under review, which they scruple not to declare, " contains a transcript of their best, and most matured professional opinions," and which " presents a view of malignant fever, at once, correct in its principles, solid in its arguments, and perspicuous in its detail." These gentlemen also add, "that they have read the memoir with attention!" which we should certainly be very sorry to think. Perhaps, if they would give the memoir another, and a little more attentive perusal, they would find it neither so "correct in its principles, solid in its arguments, or perspicuous in its detail," as they first imagined, and would see ample cause to regret what they have done. But we are wandering from our purpose. To the ill judged and too inconsiderate panegyric referred to, Dr. Moore was the first to set his hand. Permit us now to introduce this gentleman as a witness against the very object of his public admiration.

> "Dr. William Moore, (says Mr. Addoms, p. 7) an eminent physician, of New-York, informed me, that a gentleman from Lime, in the state of Connecticut, was on a visit to this city, when he became a patient of his, in whom the disease was very evidently marked, attended with large vibices; he however recruited considerably before he left the city; on his passage to Lime, he relapsed, and died shortly after he reached home. The *greater part of this family caught the contagion, and soon became affected with a similar disease, which proved fatal to his mother, and some other persons in the family.*" *Addoms' Dis.* p. 7. *note.*

Now, on the supposition that the inference drawn by Dr. Miller from his fancied premises be correct, it follows irresistibly, if there is truth in logic, that in the cases just mentioned, not the breathing impure air, but exposure to the effluvia of sick persons was the sole cause. But it shall in candour be allowed, that, in the definition in our last of the contagion peculiar to four diseases, of which, yellow fever is one, it is expressly stated, that "these diseases are only, *in general*, communicable through the medium of an impure atmosphere."

Dr. Miller's No. 4 might have more properly found a place under No. 3, and is already answered in our notice of that number. We will, however, remark, that in his zeal to shew that the disease is only caused by breathing impure or pestilential air, and not by communication with the sick, the doctor has proved too much for himself.

" In the last epidemic, of 1805, (says he) all the persons occupied in the removal of the sick from the city to the hospital, who, in this service, went without reserve *into the most pestilential quarters of the town*, *entered the most filthy apartments*, escaped without infection." This, we presume, is the latest, as it is the most interesting discovery of the non-contagiousness of yellow fever. Here we have evidence, that persons may, with safety, not only expose themselves to the effluvia of the sick, of which, indeed, they had been informed in the preceding page, but that they may likewise walk into the most pestilential quarters of the town, enter the most filthy apartments, and, in short, breathe the most impure air with perfect impunity. We congratulate the public on the discovery announced, for, henceforth, there is nothing to be apprehended from the prevalence of yellow fever; indeed, there can be no such thing as a prevalence, for, since it can neither be communicated by the effluvia of the sick, according to page 666, nor propagated by a pestilential atmosphere, according to 667, there is nothing to keep this " inexhaustible poison" alive, and it must inevitably die; it must violate its own nature, and become exhausted, that is to say, cease to have an existence. One thing only is wanting to render this the most comfortable doctrine in the world, and that is, to be able to believe it.

5. " The extinction of the disease by cold weather, is an insuperable objection to the doctrine of its propagation by contagion. That the disease in reality depends upon an atmospheric poison, appears from the fact, that all the means which operate to arrest and destroy

it, such as, cold, heavy rains, and high winds, are merely atmospheric agents."

Shall we never be indulged with a single instance of any thing but bare assertion? Will Dr. Miller deal in nothing but a *petitio principii?* It is not true that heavy rains, or high winds, or cold, unless accompanied with actual *frost*, have ever been known to have the least perceptible influence in arresting or destroying the yellow fever, as may be seen by turning to any one of the histories of its prevalence at any place in the United States. Dr. Rush, in the very page that at this moment happens to lie open before us, observes, that in six particular instances, it has declined or ceased only about the middle of October; and he also observes, that in the year 1762 it continued to prevail in the months of November and December, and that the deaths were nearly as numerous in November and December as in September and October.

Dr. Miller has told us in this memoir, that "the pestilential fevers of our cities differ only in grade from the milder remittents of the country."

Let us now see how his argument stands thrown into the form of a syllogism. Remittents and yellow fever, are only different grades of the same disease, and governed by the same laws. The yellow fever is extinguished by frost, therefore, "it depends on an atmospheric poison," and, therefore, again, "cannot be communicated by contagion." The remittent fever is not extinguished by frost, therefore, it depends not "on an atmospheric poison," and, therefore, again, may be communicated by contagion; and, therefore, lastly, is not the same disease. But if it results, that the yellow fever is not a contagious disease, it equally results that the remittent fever is so. We confess, that if left to ourselves, we should have held the diametrically opposite opinion, viz. that the yellow fever is, and the remittent is not, contagious; and, we believe, the world holds it with us, and that we are amply supported by facts. The doctor has now, however, proved, that we and all the world have always been wrong, and himself and Dr. Mitchill only right.

> "Hot climates and seasons are universally held to be unfavourable to the spreading of contagion. The reason is obvious. In warm weather, the doors and apartments of the sick are kept open, and ventilation is carried to the highest degree." "But if this disease depended on cold weather, when houses are more closely shut up, it would be then more certainly communicated, and more widely destructive."

Does Dr. Miller then contend, that the small pox is more certainly communicated in summer, when houses are kept open, than in winter, when they are shut? If he does, we refer him to the first part of this same memoir, where he may see another pleasant sample of self-contradiction.

If any thing more frivolous, more puerile than this, has ever proceeded from any writer of reputation, when engaged in treating didactically a serious subject of controversy, it has totally escaped our observation.

> 6. "Yellow fever does not prevail in countries where the heat is not sufficient to exhale the miasmata of foul grounds, and other corrupting matters, in the requisite quantity and virulence."

Will the learned gentleman inform us what is the difference in the comparative degrees of heat, between New-York, and the adjacent villages of Brooklyn, the Wallabout, and Amboy? And if there are none, or none worth mentioning, will he proceed, and inform us how it happens that all these places have each in turn, but no two at once, experienced the prevalence of the yellow fever? When this is done, then shall we be ready to discuss his sixth reason more fully with him.

7. "Many persons who had contracted the yellow fever in New-York, during the several seasons of its prevalence there, died of it at Boston, Albany, and other cities, at a distance, &c. In no instances did these victims of the epidemic communicate contagion."

This is just what is said in his reason No. 3, and is already answered; but adepts in controversy know that the majority of readers are very apt to believe, that where numerous reasons are set forth in form, something must of course be proved.

8. "The remarkable exemption of physicians from this disease, *provided they attended to a few simple precautions*, is also irreconcilable to the doctrine of its contagiousness."

Why so? But we question the fact here taken for granted. If Dr. Miller will turn to the histories of the yellow fever in 1795 and 1798, he will find no such exemption mentioned there; on the contrary, he will find a numerous account of their deaths; and, on the sad list, some of the most valuable of the faculty, both at Philadelphia and at New-York. Have we not lost all our health officers who attended the quarantine ground? a Treat, a Bayley, and a Ledyard; a Rodgers, (thanks to a gracious Providence, and a good deputy,) still lives for the benefit of himself and family. But this exemption of the physicians, we observe, has a proviso annexed; just a few simple precautions must be attended to. What are they? The doctor, rightly supposing the secret would be eagerly sought after, has very properly and kindly communicated it.

> "The more happy escape of physicians in this last than in former epidemics, is to be attributed chiefly to their having secured a residence in the higher and safer parts of these cities, and to the comparative unfrequency of their visits to the districts of envenomed atmosphere."

The "simple precautions," then, is a late thing, and consisted in their taking good care to keep more *out of harm's way*. Truly a very good, as well as a "very simple precaution"! Happy thought, and thrice happy the brain that first engendered it. In vain, however, have we strove to comprehend how this exemption of those physicians, who took such care to keep clear of the disease, is a proof of its non-contagiousness. But supposing this greater exemption of physicians than others, independent of the precaution, we then say, that it must be owing to the same cause that secured exemption to those employed in removing the sick, as mentioned by the doctor a few pages before, who, it seems, could not take the disease one way nor t'other, neither from the diseased, nor from a pestilential atmosphere, in short, they were completely *bomb-proof*, as we say in the army. The doctor adds,

> "It is understood, at the same time, that these physicians, in their confidence of the non-contagiousness of the disease, generally spent more time in the apartments of the sick, and were in the habit of making a more deliberate and minute examination of the cases which fell under their care, than in preceding epidemics."

It is apparent that the doctor advances this without feeling any confidence himself in its correctness. It would appear after all, then, that it was those physicians, only, who believed in the non-contagiousness of the disease that were exempted. What egregious trifling!

> 9. "The failure of every attempt to arrest the progress of the disease, by the separation of the sick from the well, is also incompatible with the doctrine of contagion."

Forever begging the question. Does the writer mean, that the progress of the disease was never arrested by an abandonment of the diseased place? If he does, we must contradict him on that fact. Wherever it has been found practicable to abandon it, as it has been in several villages, the disease has entirely disappeared, and the place might be visited with perfect safety in a few weeks afterwards. Such was the fact at Newburyport, a number of years since; that it was so at the Wallabout, in the year 1804, we were witnesses; the writer of this visited and examined the spot for himself within three weeks, and such has also been the case at Brooklyn. But this is only another instance of that disregard of correctness, that disingenuous artifice, which marks every page of this elaborate essay.

If any thing more is necessary, the doctor shall furnish it himself. In the 8th volume of the Medical Repository, he states, that at the Wallabout the inhabitants abandoned their houses, &c.; and, "in consequence of this, (says he) the disease was suddenly *arrested*." Thus, the effluvia of sick bodies no longer prevailing, the disease disappeared, notwithstanding all the "marsh miasma" exhaled by heat, and floating in the atmosphere."

10. "The inconsistency and contradiction which constantly attend the application of the doctrine of contagion in this disease, make it altogether inadmissible. To explain one set of facts, it must infinitely transcend the small pox; to suit another, it must entirely forfeit the power of communicating itself by contagion. On some occasions, it is more subtle, penetrating, and rapid than the electric fluid; on others, more sluggish and dormant than the grossest matter. Contrary to all other noxious substances, it is often more destructive at a distance than near to its source; for, at one time, it cannot reach a single individual among a great number surrounding the bed of the patient, and in frequent contact with his person, while at another, it must strike at the distance of several hundred feet."

We feel ourselves bound to pronounce, that all this is but a tissue of perverse misrepresentation; and it is difficult to conceive that any mind which could thus descend to the employment of such pitiful artifice, must not be as deficient in correctness of reasoning, as it is in candour. But the singular manner in which the author finishes the paragraph is both absurd and ludicrous.

> "The noxiousness (says he) of the miasma of foul grounds, exhaled by heat, and floating in the atmosphere, explains all these facts, and reconciles all these contradictions."

So then, after all his attempts to fabricate a mis-statement, which he falsely and ungenerously imputes to his opponents, and then heaps upon it all the ridicule he can command, he acknowledges it to contain sober facts, which he has a theory at hand to explain, and contradictions which the same theory can reconcile. Only allow him his idio and koino miasmata, and he can do what has hitherto been supposed to transcend the powers of man; he can explain what is inexplicable, and reconcile contradictions.

We have arrived at the end of his ten reasons, but as he seems himself not quite satisfied with them, but goes on with other "reasons annexed:" we must follow him a little further.

> "If it were necessary to add any thing to the evidence of these irresistible facts, it might be subjoined, that yellow fever cannot be considered as a contagious disease; because, unlike all other contagious diseases, it has no specific character, no definite course or duration, and no essential or pathognomonic symptom."

We have in candour to confess, that we are altogether at a loss for language to express our astonishment at this paragraph. Scarcely a writer among the very numerous ones that have treated on the yellow fever, but have begun by very properly describing the disease, its specific character, definite course or duration, and its pathognomic symptoms. If it were possible to believe, that the learned author had never read, or had forgotten the descriptions of this disease, given by Warren, Moseley, Chisholm, and a score of others, what shall we think of his having totally overlooked his own volumes? his fourteen volumes and nearly three hexades of the Medical Repository? a labour in which he has been engaged for no less than fourteen years. Finally, what shall we, what must we think of his having forgotten the beginning of the very essay under review before he had quite reached the end of it? The first volume of the Medical Repository opened with two essays, by one of his colleagues, for the express purpose of proving that our yellow fever was the same disease which, in the year 430, A. C., was called the plague, and depopulated Athens. For which purpose, it became necessary to describe, in the first place, what were the pathognomonic symptoms of our yellow fever; and this, again, necessarily obliged him to describe the fever itself minutely, in order that he might identify it with the Athens plague, which he also describes.

> "This disease [the Athens plague] (says he) broke forth suddenly; its attack was generally sudden, commencing without any previous illness or apparent cause. It began with violent head ache, inflammation and fiery redness of the eyes, soon succeeded by inflammation of the throat, difficult respiration, and offensive breath; a sneezing and hoarseness followed, with cough and other pulmonary affections. But the progress and nature of the disease will be more clearly comprehended, from the following disposition of the particular *symptoms*."

This is followed by an enumeration of no less than ten different symptoms. How far these symptoms go to prove the writer's proposition, we shall not here trouble ourselves to examine, as it is not necessary to our purpose. They are, at any rate, pertinent to show, that the editors of the Medical Repository, when it suits their views, have no difficulty in admitting the character, duration, and symptoms of yellow fever; and, as we now see, when they have different views, they are equally ready to deny their existence. To come, at once, to the point, we will produce a few extracts from the Medical Repository itself.

We find the doctor engaged in describing the yellow fever in the city of New-York, in 1803, and he has one division of his subject entitled "symptoms," and beginning thus:

> "The *phenomena of yellow fever* in this season, did not materially differ from such as heretofore have been observed to *characterise the disease.*" *Med. Rep.* vol. 7. p. 180.

And, we find him in another volume of the same work, in an article, entitled "*yellow fever at Cadiz,*" speaking thus:

> "We learn that this Spanish disease was precisely such an one as we have lately so often experienced in different parts of our own country. A glance at the *description and symptoms will remove every doubt.*" *Med Rep.* vol. 5. p. 110.

In a letter from Dr. Davidson, on the yellow fever, as it appeared in Martinique, the writer begins a paragraph with observing, that

> "A peculiar and distressing oppression about the precordia, was a *pathognomonic symptom* of the disease." *Med. Rep.* vol. 5. p. 245.

Once more, speaking of the yellow fever at Leghorn, as described by GAETANO PALLONI, it is said:

> "This disease is described as being one, which, however it might vary in its origin and progress, was *always characterised by the follow-*

> *ing symptoms: In the beginning, a propensity to vomit; pains in the limbs; a most intense head-ache, more especially in the forehead and temples; a sensation more or less troublesome in the pit of the stomach and the region of the liver; a colour like that of jaundice; and, towards the end, puking a matter resembling coffee grounds; bleedings from the throat and nostrils, hiccuping and convulsions.*" *Med. Rep.* vol. 8. p. 426.

But this gentleman, now, forsooth, when he has another point to carry, scruples not to tell us, that the yellow fever "has no specific character, no definite course or duration, no appropriate, essential, or pathognomonic symptoms?" Once more, and lastly, let us confront him with himself, in this very essay.

> "The *two symptoms* which we supposed to be most characteristic of this disease are, yellowness of skin and black vomiting. A number of passages might be adduced, to shew that Hippocrates frequently met with these symptoms in the diseases that fell under his care; such only will be mentioned as are clear, pointed, and incapable of being mistaken. In the ninth section of his book Crisis, he asserts, that in burning fevers (causus) *a yellowness of skin appearing on the fifth day, and accompanied with hiccup, is a fatal symptom!* This is a brief, precise, appropriate *description of the disease, at one of its most important stages.* The appearance of *these symptoms* at that period, gives reason to apprehend the fatal event, which often takes place soon afterwards, and more frequently on the next, or sixth day, than on any other of the disease. *Such a description, it is presumed, can apply to no other febrile disease but that now in question.*" *Appendix,* p. 661.

Thus, kind reader, in page 661, you have a precise and appropriate description of a disease, and a description which, you are told, can apply to no other but that in question; but, when you have read on to page 670, you will find yourself solemnly assured, that it is totally indescribable; that it has "*no specific character.*" In the former page, you are told, that "*the fatal event more frequently takes place on the sixth day than on any other;*"

but, in the latter, you are told again, that the disease "*has no definite course or duration;*" and, lastly, you are first informed, that "*a yellowness of skin appearing on the fifth day, and accompanied with hiccup, is a fatal symptom;*" but all this you are to forget before you arrive at page 670, last quoted, for there you find, to your utter amazement, that the yellow fever, "*has no appropriate, essential, or pathognomonic symptoms*" [whatever.] The doctor is a little distracted by opposite views: when his object is to show, that the yellow fever is not a modern fever, then the aid of Hippocrates is called in, to prove, by a comparison of symptoms, that the ancient plague of Athens, and the modern yellow fever, is the same disease; but, to accomplish this, he is necessarily obliged to produce, both a description of *symptoms* belonging to the yellow fever, and, also, to the plague of Athens. On the other hand, when his object is to shew, that all fevers are only different grades of the same disease, he is obliged to turn right about, and deny it has any *symptoms*, or any thing to characterise it; and this enables him to exhibit, in a style of satin, "a simplicity, uniformity, and *elegant arrondissement* in the doctrine of fevers, which, (he says) cannot but recommend it to all who admire the regularity of nature."

The truth is, our good doctor is here involved in an inextricable dilemma: Either the yellow fever is a specific disease, or it is not. If it is a specific disease, its identity with the plague of Athens may be possible, (though he and his colleague have certainly failed to prove it) but then it is no longer a branch of the "miasmatic diseases," and there is an end of his beautiful and elegant arrondissement; if, on the contrary, it is not a specific disease, or a disease *per se*, then he preserves his arrondissement indeed, at least from being upset by his own theory, but away goes the plague of Athens. We will freely give the doctor his choice, but cannot, in conscience, allow him both at once. Seriously then, we ask, how it was possible for any man maintaining a decent regard for the public, or even a proper self-respect, to entangle himself in such and so many inconsistencies and contradictions?

(*To be concluded in our next.*)

ART. II. SKETCH *of a Plan and Method of* EDUCATION, *founded on an analysis of the human faculties, and natural reason, suitable for the offspring of a free people, and for all rational beings. By* JOSEPH NEEF, *formerly a coadjutor of Pestalozzi, at his school near Berne, in Swisserland.* Philadelphia, 1808. 12mo. pp. 168.

WE have lately had much pleasure in perusing Mr. Neef's sketch of Pestalozzi's interesting plan of education. This sketch was published by Mr. Neef in the year 1808, and accidentally fell into our hands only a short time since.

The object of the work is to set forth and explain the principles of that system of education, which the sagacity, genius, and benevolence of Pestalozzi unfolded to the world. The beautiful simplicity of the plan, and the clear and accurate display of mental operations connected with it, indicate in Pestalozzi a more than usual acquaintance with the philosophy of mind. A bare examination of the simple principles or elements of the understanding upon which this plan is founded, and the easy gradations by which it proceeds to the complete developement of the faculties of the mind, was not, however, sufficient to secure its reception. "His motives were applauded, and his plan was admired," but no one was found sufficiently hardy or independent to adopt it; till, after struggling with the numerous difficulties incident to innovation upon established methods, and contending with the host of prejudices that were ready to obstruct the accomplishment of his purpose, he at length succeeded in establishing his system, which was afterwards marked by a progress far surpassing his expectations.

About the beginning of the nineteenth century, Pestalozzi opened a school near Berne, in Swisserland, and about a year afterwards received Mr. Neef as a coadjutor in his new plan of instruction. In 1802, he was requested by the Philanthropic Society of Paris to send them a person acquainted with his method of teaching; and Mr. Neef, from his knowledge of the German and French languages, "was the person selected." About the year 1805, Mr. William Maclure, of Philadelphia, visited Pestalozzi's school, and being greatly struck with its usefulness, formed a desire to diffuse the advantages of such a system of education through his own country. On his return, therefore, to Paris, he sought for Mr. Neef, who, being "republican by inclination and principle," was induced by the generous offers of Mr. Maclure to become "an inhabitant of the new world." At the time Mr. Neef left Paris, he appears to have been perfectly unacquainted with the English language; and yet in little more than two years after, he published his "Sketch of a plan and method of Education," a performance which evinces a very rare facility in the acquisition of a foreign tongue.

Believing, with Pestalozzi, that man is originally formed neither virtuous nor vicious, but that the tendency or disposition to become either the one or the other is closely incorporated with his structure, we have long been fully convinced of the faults and imperfections of the prevailing systems of education. It is with pleasure, therefore, that we have devoted a portion of our time to the perusal of a work, which has for its object a change or an improvement in the method of conducting man through the most interesting and important period of life; for although we cannot at this time expect from it any advantage to ourselves, yet we may, with the most elevated feelings of pleasure, hold up to the infant generation a more enlivening prospect of knowledge and of virtue.

Mr. Neef appears eminently calculated for the important and responsible task which he has undertaken; his patience seems literally inexhaustible, and his whole soul devoted to the drawing forth of the human faculties. An occupation which is wearisome and trying to the tempers of most men, seems to furnish him with a high and peculiar degree of pleasure. His establishment in this country will afford a practical exhibition of the advantages of this new system, and furnish our countrymen with a fair opportunity of deciding on its merits. Mr. Neef is perfectly willing that it should be tested by the severest scrutiny, confident that it will not suffer from any examination built upon the principles of the human mind. His object is to elicit and evolve the powers of the understanding; the magisterial restraint, therefore, of the teacher, and the cold, chilling and pedantic air of the schoolmaster, are equally rejected. He places himself on the easy and familiar footing of a friendly counsellor, endued with an extensive fund of information; accurate and precise on all the subjects of which he ventures to treat. This accuracy and precision in knowledge he endeavours to convey to the youthful minds of his pupils, in order the better to establish their judgments; and with this view, he rivets their attention on every object of their study. The easy and gradual manner in which he leads them to the employment of their senses, and the exercise of their minds, instead of proving a toil to which they reluctantly yield, is acknowledged as a high source of amusement and delight. In the course of some of his lessons, he designedly commits errors, that opportunities may be afforded his scholars to exercise their watchfulness in detecting them. This they invariably do with a degree of acuteness that marks the progress of his principles, and establishes the truth of his system. The quickness of perception which they discover, and the facility and cleverness they acquire in answering questions even of the most abstruse nature, is truly astonishing. Some of the problems which they solve without the least hesitation, would more than merely exercise ordinary arithmeticians. Zerah Colburn's calculations scarcely appear more surprising, than some of the solutions which children of seven or eight years of age give to problems proposed to them by Mr. Neef; the operations of the mind, and the train of reasoning by which they arrive at the solutions are clearly and distinctly exhibited. From among a number of others, we shall merely extract the following problems:

"Four years and a half ago, a man borrowed three hundred and forty-eight dollars. The interest which he paid during the said space of time, amounts to ninety-three dollars and ninety-six cents; how many dollars per cent. interest does he pay?"

"Somebody borrowed a sum of money at six and a half per cent.; the interest he paid for the said sum, during five years, amounts to two hundred and sixty dollars and thirty-five cents. What is the amount of the sum which he has borrowed?"

"A man bequeathed to his only heirs, a niece and a nephew, his whole estate, amounting to five hundred and seventy-eight guineas. The man dies, and his last will is opened; there it is stipulated, that the portion of the niece shall be to that of the nephew, in the ratio of seven to five. What will be the portion of each of them?"

Mr. Neef observes, that all these problems will be solved "without the least assistance of the usual arithmetical rules, and even without the least knowledge of our arithmetical cyphers; and whilst an ordinary arithmetician would be in quest of pen, ink, and paper, and reflecting whether the question may be solved by the rule of three, four, or five, the whole matter will be explained, proved, and demonstrated, by a child of eight years of age."

We cannot help expressing our approbation of the manner in which Mr. Neef instils into his pupils the elements of geometrical knowledge. We have been much gratified with his method of instruction in ethics or morals; the attention which he pays to this important part of education, must be highly satisfactory to every parent properly impressed with the awful responsibility for the future fate of his child. It is evident from his plan of instructing them, that his pupils must soon become fixed in the great principle of the "immutability of truth;" and that there will be, comparatively, but little danger of their afterwards lending themselves to that false and destructive doctrine, which would determine the morality or immorality of an action, by the time, place, and circumstances under which it may have been performed. He carefully avoids all officious interference with the faith or religious tenets of his pupils; while he endeavours to impress seriously on their minds, the relations in which they stand to the world, to their fellow creatures, and to the Deity; this knowledge of their rights, duties, and social relations is derived from an examination of their faculties.

Complete instruction is given in the science of articulate and inarticulate sounds, in a way which had not been attempted previous to the introduction of this system, and for which, his students will ever acknowledge themselves under great obligations, in reading, writing, and in speaking. The improvements which he proposes to introduce into the alphabet, although apparently a reasonable speculation, would, we imagine, be found an impracticable undertaking. His manner of teaching grammar is new, and free from the drudgery and dryness of the common method; he imparts to it a degree of ease and interest, and instead of confining himself to the mere detail of grammatical rules, comprehends in it the metaphysical part, or philosophy of languages. He disapproves of the length of time that is spent in acquiring the dead languages. He enables them to read Cicero, Virgil, Homer, and Demosthenes; but, very reasonably, prefers giving them a more thorough acquaintance with the living languages. He teaches them the most useful part of geography, and obliges them to form their own maps. He instructs them also in the elegant accomplishments of drawing, music, and poetry; and on the subjects of natural history, natural philosophy, and chemistry, he excites a degree of interest, that keeps up their attention to all the objects of nature which surround them. These things being at first rendered a species of pastime, at length become a source of high amusement. His plan is particularly calculated to improve and establish the health of his scholars, and to impart to them a degree of vigour both of body and mind. As parents will naturally consult the health of their children, we may observe, that Mr. Neef has established his school in the country, within a few miles of Philadelphia; a consideration also with those who believe in the opinion, which is supposed to be founded on experience, "that they, who have spent all their lives in cities, contract not only an effeminacy of habit, but even of thinking." He spends great part of his time among his pupils, and while he joins them, indulges and instructs them in gymnastic exercises, and all the sports of youth. His number of pupils he states to be limited to forty; he will receive none under six, nor any above eight years of age; and would rather wish them to be entirely ignorant at the time of receiving them.

Before concluding, we will say a word or two of the manner in which Mr. Neef writes: always like a man of genius, and apparently with ingenuous and disinterested feelings; but we think with rather too much confidence for a foreigner, about to introduce an improvement among a young people, whom he supposes to be entirely ignorant of this system; a supposition, by the by, not strictly authorised.

Mr. Maclure's attention, when in Paris, was directed immediately to Mr. Neef, as the probable agent of great and laudable improvements in this new hemisphere; and Mr. Neef appears delighted with the "magnanimous patriotism" of Mr. Maclure, whom he pronounces "one of Pennsylvania's worthiest and most enlightened sons." However forcible and pleasing the emotions may have been, which Mr. Neef experienced at this unexpected disclosure of American magnanimity, we are not disposed to view it in the extraordinary and wonderful light in which it appears to have struck him. We may safely venture to assert, without wishing to detract from the meritorious conduct of Mr. Maclure, that few Americans of education and research have visited Europe, without feeling a desire to introduce into their own country, some of the many improvements they may have witnessed in the various branches of the arts and manufactures. What American, that has passed through Sheffield, Manchester, Birmingham, or Worcester, that has not glowed with enthusiasm to translate to his own country, the improvement, facility, and expedition in the works of these respective places? What efforts are now making to imitate the porcelain of Europe, and to improve the manufactures of iron and other articles? And how short a time was allowed to precede the introduction of Lancaster's plan of education? How numerous indeed are the instances which might yet be adduced, to illustrate and establish this principle of patriotism which distinguishes the American, whom we believe not to have degenerated from the elevated spirit and vigour of mind possessed by his forefathers; and which, in all probability, would reflect still higher credit on his country, were he in more instances possessed of those means to accomplish his purpose, which gave efficient activity to the laudable spirit of Mr. Maclure.

In closing this article, we hail the arrival of Mr. Neef in this country, and regret not having been educated under the system of his great master, Pestalozzi. We abstain from an examination of the Pestalozzian principles, as it would be impossible, within the compass of such an article, to convey an adequate idea of the system. We would, therefore, earnestly recommend to our readers, to peruse the sketch, by Mr. Neef, the highest pitch of whose ambition is to become a useful schoolmaster.

Goldsmith observes, "of all professions in society, I do not know a more useful, or a more honourable one, than a schoolmaster; at the same time, that I do not see any more generally despised, or men whose talents are so ill rewarded;" and he is "bold enough to say, that schoolmasters in a state, are more necessary than clergymen, as children stand in more need of instruction than their parents." We hope that a discerning public will not allow the advantages of this system, and the usefulness of this man, to be lost to the country; and that encouragement will be given to the assistants of Mr. Neef, whom he invites, with a friendly welcome, to join him in "a work, that will render Pestalozzi's name as dear and venerable to posterity, as the deeds of many of his contemporaries will render them execrable to future generations."

ART. III. *A Brief Topographical and Statistical* MANUAL *of the State of* NEW-YORK; *exhibiting the situations and boundaries of the several counties; the cities, towns, mountains, lakes, rivers, creeks, &c. in each; the villages and other places within the limits of each town; distances from the seat of government, &c.; and designating the principal places, and the seat of the courts, &c. in each county; the places in which post offices are kept; the incorporated villages, &c.* Albany, Frary, 12mo. pp. 36. 1811.

The author of the present manual, which is not inaptly termed a *verbal map*, has offered to the public a larger amount of interesting, and we think we may add, novel information, than has probably ever been contained in any work of a similar kind. That the information is of great interest is too obvious to be denied; that it has strong claims to novelty with a great majority of readers, is, we think, equally certain. We are so accustomed to consider those things which are easily to be attained as of a trifling nature, and the knowledge which is accessible at our very doors, as not worth the trouble of acquiring, that many of us, impelled by an ill directed curiosity, travel abroad in search of useless information, and are contented to remain in total ignorance of that which immediately concerns us. Hence, it is no uncommon occurrence, daily to meet with native Americans much better acquainted with the topography of an obscure country town in England, than with the topography of their native state, having tolerably correct ideas relative to the imports and exports, the agriculture and manufactories, the progress of literature and science among the European nations, and the most erroneous and absurd notions relative to matters of the self-same nature in their own country. Others again are so much engaged in the concerns of traffic, or so closely confined to mechanical pursuits, that, however strong their inclination to know something of our rapid settlements and improvements, through want of leisure they are altogether prevented. To both these classes of individuals, the present performance possesses strong claims to novelty. The author has with great zeal and industry collected his materials, and, independent of every pecuniary consideration, compressed in thirty-six pages what might easily have occupied a quadruple number.

We shall make an extract from his prefatory remarks, which cannot be read but with the greatest satisfaction, as it exhibits a very recent, and, no doubt, correct statement of the unprecedented increase of wealth and population in the state of New-York.

"In 1731 this state contained 10 counties, and only 50,291 souls—in 1771, same counties, and 163,338 souls—in 1786, (twenty-five years ago) 12 counties, and 238,896 souls—1791, sixteen counties, and 340,120 souls—and in 1800, thirty counties, 305 towns, (including 3 cities) and 586,000 inhabitants. Now (1811) the state contains about 300 villages, of from 15 or 20, but generally from 30 or 40, to 600 houses, 452 towns, (including 4 cities) 45 counties, and (in 1810) 960,000 inhabitants; giving an increase of 15 counties, 147 towns, and 374,000 people in the last ten years! ! And the militia of the state regularly enrolled amounted to 102,068 in 1809.

In manufactures, the late census has furnished data for the following statement:

Looms, 33,068; yds. cloth, (all kinds) 9,099,703; value, $5,002,891 82. Tan works, 867; val. of leather, $1,299,542 16. Distilleries, 591; val. $1,685,794 40. Breweries, 42; val $340,765 68. Fulling mills, 427; enhanced val. of cloth, $679,126 87. Paper mills, 28; val 283,268 00. Hat factories, 124; val. $249,035 00. Glass works, 6; val. (besides bottles, &c.) $716,800 00. Powder mills, 2; val. $10,400 00. Rope walks, 18; val. $538,000 00. Sugar houses, 10; val. $420,706 00. Oil mills, 28; val. $49,283 75. Blast furnaces, 11; val. $205,300 00. Air furnaces, 10; val. $156,720 00. Cut nail factories, 44; val. $276,932 80. Forges, 48; val. $185,240 00. Trip hammers, 49; val. (return of work from two of them only) $1,600 00. Rolling and slitting mills, 1; val. 33,120 00. Total value—$12,085,525 62. Also, 413 carding machines—value included in cloth above; and 26 cotton factories, not included above, the cloth there mentioned being the manufacture of families only. The above returns (except for Ontario, Columbia and Washington counties) are moreover believed to be short of the real amount; no tow cloth was returned except for two counties; instead of one there are ten or twelve rolling and slitting mills in the state; the nail, hat, paper and rope factories, furnaces, &c. much exceed the number returned. All the woollen factories were omitted. The single county of Rensselaer will this year manufacture of the above articles, the value of $600,000, though returned last year at $458,000. And many new factories, in Oneida especially, and in the western country generally, are just going into operation. So that it may be safely affirmed, that our present annual value of the above named manufactures exceeds $16,000,000!

There are now made annually, 525,000 bushels of salt, viz. in Onondago, 453,840 (though in 1800 only 42,754); Cayuga, 54,000; Genesee, 1,400; Seneca, (at least) 25,000; and Ontario, about 8,760—total value at the works, $147,000. In Cayuga, 2,240 skeins of silk. To all which may be added $60,000, the value of articles annually made by convicts in the state prison.

" I have not sufficient data to calculate the quantity of the ashes, maple sugar, flour, &c. made, or the grain, cattle, sheep, beef, pork, &c. raised annually, so as to make a valuation of our products or lands. But as the sheep returned for Dutchess were 83,855—Albany, 34,342—Cayuga, 49,872—Onondago, 44,893, and Jefferson, 20,000; we may conclude, judging from the population, (exclusive of New-York co.) that the whole state contains 1,280,000. Dutchess contains 14,341 horses, and 51,650 neat cattle, which, in like manner, (N. Y. omitted) gives 247,000 of the former, and 886,000 of the latter; but probably 300,000 horses, and 1,000,000 neat cattle, would be nearer the true amount in the whole state.

" The provisions made for the roads and bridges, besides the numerous roads and bridges authorised to be laid out, made and built, at the risk of individuals, or expense of the counties, the state, or the lands benefitted thereby, are, 36 bridge companies, with $509,000 stock, and 135 turnpike companies, with $7,558,000 stock, extending their roads over a length of 4,500 miles, about one third of which is completed.

" The capital stock of the several incorporated banks, is $11,690,000. The fund set apart by the state for the benefit of common schools, now amounts to $483,326 29; the last year's revenue of which, was $36,427 64—besides which, 314,770 acres of unsold land still belong to this fund.

" The revenue and expenditures of the state are, in the abstract, as follows:—Lands, about 1,000,000 acres unsold; and state funds, $4,191,803 25; (in 1800, about $2,900,000 00) the annnal revenue of which, is now $278,489 96—besides which, the receipts at the treasury, from various other sources were, for the year 1810, $626,042 88; (for 1791, $127,648; for 1800, $192,028 71)—and during same time were paid out, $606,328 22; in 1791, $143,417 64; and in 1800, $261,765 03.) Estimated expenses, for 1811, $268,366 22. Debts which the state owes, besides some small unliquidated demands, $880,000 (in 1800, 346,284 98.) Which (exclusive of the school fund and land, and of the 1,000,000 acres public lands above named) gives about $30,000, annual excess of revenue over expenditures, and a permanent fund, exceeding the public debt, $3,311, 803 25.

" There are established in the state, two colleges, and upwards of forty academies; also, 364 post offices, being more than one seventh of the whole (2,440) in the United States; and sixty different newspapers, and (in all) about ninety printing establishments. The shipping owned in this state, in 1809, was 251,525 tons, (besides that on the three lakes) being one fifth of the whole owned in the United States. Amount of exports, in 1807, $26,357,963; and revenue on imports, &c., more than one fourth of the whole paid in the United States, (from one fourth to one third of which two last items is, however, derived from the trade of other states.)

In addition to the goodness of our soil, and the excellence of our timber, we have plenty of iron-ore, slate, plaister of paris, and inexhaustible salt springs, the most valuable in the world. There have also been found, coal, copper, lead, sulphur, zinc, marble, ising-glass, and some silver. Our territory (containing 55,000 square miles, of which, four or five thousand are water) stretches from the Atlantic, the whole length of New-England, and spreads along the St. Lawrence, and three great navigable lakes. Embracing the head-waters of the Ohio, and two other large rivers, which pass southerly through other states—the whole course of the best river in the United States, and perhaps in the world—together with twenty other rivers, navigable by boats and rafts. This state affords the best passage in the United States, both by land and water, from tide-waters to the extensive navigable lakes of the west. There is not a mountain, or any great unavoidable hill to pass, between Albany and Lake Erie. It is he only state, too, (except at the narrow and N. E. extremity) which tends across the *whole width* of the United States territory; and the ly spot on which the Atlantic and the lakes *can* be united by sloop vigation. This peculiar situation, with its other advantages, ren- ers this state highly interesting to the politician, the man of busi- ss or enterprise, the emigrant, and the traveller. With the latter, pecially, the ready and safe conveyance up the Hudson and to Low- Canada, and the good roads and accommodations westward, will be ditional inducements to visit a country of this description, which, moreover, furnishes mineral waters more efficacious and valuable than the best medicinal springs in Europe; and which (besides many intermediate sublime natural views and objects) contains, on its western confines, the greatest natural curiosity in the world—a country interspersed (exclusive of the great waters before named) with more than *fifteen lakes*, from ten to forty miles in length, and numerous smaller ones, exhibiting as great an extent, variety, and beauty of inland water scenery, as all the other states together."

If report be correct, the author of this little work is Mr. H. G. Spafford, who has long been engaged in preparing for the press, a *Gazetteer of the State of New-York.* From the excellent specimen of the same species of labour, which he has now offered, we have become still more desirous to see his larger performance.

New York, April 5. 1744

Sir

Happening to be in this City about some particular Affairs, I have the Pleasure of receiving yours of the 28th past, here. And can now acquaint you, that the Society, as far as relates to Philadelphia, is actually formed, and has had several Meetings to mutual Satisfaction. — aſſoon as I get home. I shall send you a ſhort

DOMESTIC INTELLIGENCE.

ORIGINAL LETTER *from Dr.* BENJAMIN FRANKLIN, *to the Hon.* CADWALLADER COLDEN, *Esq. at Coldenham, giving an account of the first organization of the American Philosophical Society, of Philadelphia.*[*]

New-York, April 5, 1744.

SIR,

Happening to be in this city about some particular affairs, I have the pleasure of receiving yours of the 28th past, here; and can now acquaint you, that the society, as far as it relates to Philadelphia, is actually formed, and has had several meetings to mutual satisfaction. As soon as I get home, I shall send you a short account of what has been done and proposed at these meetings. The members are:

Dr. *Thomas Bond*, as Physician.
Mr. *John Bartram*, as Botanist.
Mr. *Thomas Godfrey*, as Mathematician.
Mr. *Samuel Rhodes*, as Mechanician.
Mr. *William Parsons*, as Geographer.
Dr. *Phineas Bond*, as General Nat. Philosopher.
Mr. *Thomas Hopkinson*, President.
Mr. *William Coleman*, Treasurer.
B. F——, Secretary.

To whom, the following members have since been added, viz. Mr. Alexander, of New-York; Mr. Morris,

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[*] We cannot but refer to the annexed fac simile as one of the most successful "counterfeits" of the kind we have ever witnessed.—ED.

Ch. Justice of the Jerseys; Mr. Home, Secretary of do.; Mr. John Coxe, of Trenton, and Mr. Martyn, of the same place. Mr. Nicholls tells me of several other gentlemen of this city that incline to encourage the thing; and there are a number of others, in Virginia, Maryland, and the New-England colonies, who we expect to join us, as soon as they are acquainted that the society has begun to form itself.

I am, Sir, with much respect,
Your most humble servant,
B. FRANKLIN.

The Hon. CADWALLADER COLDEN, *Esq.*

LETTER *from* WILLIAM JAMES MAC NEVEN, *Professor of Chemistry, in the College of Physicians and Surgeons, New-York, addressed to Dr.* DAVID HOSACK.

New-York, Sept. 12th, 1811.

DEAR SIR,

I am happy in being now able to send you a short account of the manner in which I succeeded in producing *potassium* by means of a gun barrel, and I think it highly probable, that we may always obtain more or less of it in the same way. If I am well founded in this expectation, it is satisfactory to foresee, that an experiment, which justly excites so much interest, will not be attempted so often again, as it has been, without effect.

The points to be specially attended to in this experiment are, that the gun barrel be very clean; the iron turnings, of soft iron, and equally clean; the potash quite pure; the tube completely air tight, and the heat properly regulated, neither rising too high nor falling too low.

The ingenious apparatus of Mr. Johns, which, with a view to economy, he directs to be made out of different pieces ground into each other, has no advantage of that sort in this town, where mechanical labour is so exceedingly dear; at the same time, that arrangement very much lessens the chances of succeeding. I had two gun barrels successively fitted up in his way, at an expense of about five dollars a piece, and yet the experiment failed in both, for want of sufficient closeness in the joints. Added to the difficulty of making the pieces air-tight in the first instance, they expand perhaps unequally during the process. I then choose to make trial with an *undivided gun barrel*, and would recommend the like to be always done at first, for after once using it thus, it is still good enough for the other mode. Having the inside of the barrel well cleansed of rust, and a well ground stopple fitted into the breeching, I then covered that part of it that was to lie in the furnace, with a coating of clay and fresh horse dung; the addition of sand is apt to make it fuse. The furnace on this occasion, was nothing more than a few bricks layed together, without cement, on the hearth of a blacksmith's forge. What I introduced into the barrel, was a parcel of card teeth, enough to fill a length of eight or nine inches. Immediately on introducing them, the barrel was laid across the fire, and a couple more bricks raised, by way of screen, before the breeching. A stop cock with a glass tube was fixed in the muzzle of the barrel, and the other end of the tube immersed in a cup of oil.

As soon as that part in the fire had acquired a white heat, the potash was introduced, and, owing to the looseness of the bricks, the end of the barrel out of the fire had already become sufficiently hot to melt the potash. The stopple was purposely left out for some time, to permit as much of the moisture of the alkali as possible to be dissipated through this opening. After inserting the stopple it was luted.

Hydrogen gas continued to escape pretty freely for twenty minutes, and it had not ceased in less than forty. It was satisfactory to find, that whenever the issue of gas slackened, the oil ascended in the glass tube, thereby shewing that the apparatus was air tight.

After being cooled, I had the gun barrel sawed through, about two inches beyond where it came outside of the fire, and, with much pleasure, found it lined with a considerable incrustation of a white coloured substance, similar to unburnished silver. When scraped off on a clean iron plate, part ran in globules like pure quicksilver, and part took fire in the air; but I saved a good deal, which had the consistence of an amalgam before putting it into the naptha, in which I shewed it to you. It seems to have hardened since, for, on the phial being shaken, it rattles against the sides, as solid particles of metal would against glass. It is true the naptha barely covers it.

I employed a very ingenious mechanic, Mr. Woodward, of Greenwich, to prepare my apparatus; and, at the same time, put into his hands Judge Cooper's account of the trials made by him at Northumberland. This example induced Mr. Woodward to bend the gun barrel, a thing I do not by any means think necessary, and hardly useful; but if any person prefer it, he may have it done without flawing the barrel, in the way Mr. Woodward did mine, by bending it with strokes of a mallet instead of a hammer.

In a second experiment, in which I also obtained potassium sufficient to satisfy me, had it been the first time, I ascribe the smallness of the quantity procured, to the end of the gun barrel being too much turned up by bending, and the potash thence flowing in too rapidly upon the wire. In this case, hydrogen passed over far more quickly than in the former experiment, and some potash remained undecomposed beyond the wire. Might not the oxygen of the potash have been divided between it and the potassium, and the product of metal thus diminished?

Though a white heat be necessary, it may be carried too far, as I saw happen to Mr. Chilton, in an experiment in which his gun barrel was fused, and yet not without unequivocal signs of potassium being produced.

The fuel I employed was coke, but it produces a heat unnecessarily intense, and with it we risk the melting of the gun barrel. I observed in my second experiment part of the wire within the barrel united to it by fusion. Moreover, the learned professor of Dickenson College used only charcoal, and nevertheless obtained all the heat he required.

When very solicitous to succeed, I would certainly prefer a gun barrel not at all divided, and employ a charcoal fire, in a close furnace. I would make the alkali run slowly through the wire or turnings, as the case may be, and not admit any of it until the apparatus was brought to a white heat.

I bought some gun barrels at seventy-five cents a piece; cleaning them out will cost from twenty-five to fifty cents each, and by using one of this kind we render success almost certain. They are then not only the best, but the cheapest for us who live in New-York.

On this, as well as on other occasions, it is of great moment to procure a pure alkali. Lovitz's process is tedious, and gives rise to the formation of much carbonate of potash. Bertholet's would be preferable, from the property alkalis possess of dissolving in highly rectified alcohol, to the exclusion of all foreign salts, if the mutual action of the spirit and alkali did not afford a new source of impurity. But judging this action greatest, when heat is applied to evaporate the alcohol, I substitute the following process.

On the concrete potash, left by the evaporation of the caustic lie, I pour strong alcohol in the first instance, and thus separate expeditiously the neutral salts, earths, and carbonic acid it contains. I afterwards carefully decant it, and add an equal quantity of distilled water; after which, I distil them from a glass retort until all the spirit comes over, which I thus recover, and, lastly, evaporate to dryness in a silver bason. Caustic potash can be got in this manner with less trouble, and it is very pure and well coloured. Yours, &c.

W. J. MAC NEVEN.

Extract of a Letter, addressed to one of the Editors of the Register, dated Kortright, March 28th, 1811.

On the fifteenth day of March, 1803, the wife of Seymour H. Adams, in the town of Stamford, county of Delaware, and state of New-York, was delivered of a living male child, and the placenta, before the accoucheur arrived; and having severe after pains, opium was administered, which abated the same. From that time till the first day of June following, she was constantly afflicted with head-ache, loss of appetite, with a mucus discharged in great quantity from the uterus; her countenance gradually became sallow, she was much debilitated and emaciated. During that time, several medical gentlemen were called to her aid, but gave no relief. On the morning of the last mentioned day, I was called, the distance of ten miles, to visit her, and apprehending the case to be fluor albus, I ordered an emetic of tartrite of antimony, leaving other medicines to be taken afterwards, and so I left her; but in the evening of the same day, I was called again, and when I arrived, there was expelled from the uterus, the entire os occipitis of a fœtus. I then examined her, and found the os uteri sufficiently dilated, so that in a short time she was delivered of several small pieces of bones, and a considerable quantity of grumous blood, mixed with gritty particles of bone. What was discharged had no smell of putrefaction. She immediately recovered, and has had several children since.

I am, Sir, your humble servant,

HENRY MARSHALL.

College of Physicians and Surgeons, New-York.

At a Meeting of the Board of Trustees of the College of Physicians and Surgeons of New-York, held on the afternoon of August 13th, 1811, the following gentlemen, graduates of that institution, were elected Fellows of the said College:—

THEODRIC ROMEYN BECK, M. D. of Schenectady.
WILLIAM E. BURRELL, M. D. of New-York.
GERARDUS A. COOPER, M. D. of New-York.
CASPAR WISTAR EDDY, M. D. of New-York.
HENRY RAVENEL, jun. M. D. of South-Carolina.
JOHN W. FRANCIS, M. D. of New-York.
THOMAS EDWARD STEELL, M. D. of New-Jersey.
SAMUEL ARMSTRONG WALSH, M. D. of New-York.

Columbia College.

At a meeting of the Board of Trustees of Columbia College, held on Monday, Sept. 2d, 1811, Dr. VALENTINE

MOTT was unanimously elected Professor of Surgery in the medical department of that institution.

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons.

The fifth session of the College will commence on the first Monday of November, when an introductory discourse will be delivered by the president, Dr. *Samuel Bard;* after which, the usual courses of instruction will be given.

Anatomy, Surgery, and Physiology, by Dr. *John Augustine Smith.*

Theory and Practice of Physic and Clinical Medicine, by Dr. *D. Hosack.*

Midwifery, and the Diseases of Women and Children, by Dr. *D. Hosack.*

Materia Medica, by Dr. *Benjamin De Witt.*

Chemistry, by Dr. *W. J. Mac Neven.*

Natural History, by Dr. *Samuel L. Mitchill.*

JOHN W. FRANCIS, M. D. *Register.*

Eddy's Circular Map of New-York, and the adjacent country.

It is with pleasure we are enabled to state, that this ingenious and highly interesting performance will be laid before the public about the beginning of January next. It will be printed on superfine drawing paper, two feet square; the diameter of the circle will be twenty inches; the scale, two miles to one inch, extending thirty miles in all directions round the city: the old city hall, at the head of Broad-street, will be in the centre; and it will shew all the villages, taverns, most noted country seats, turnpike roads, and the more considerable common roads. In order to correct the many errors which abound in other maps, and to render the present one as correct as the nature of the publication will admit, at a great expense and trouble, numerous surveys have been made, both in New-York and in New-Jersey, including all the turnpikes in New-Jersey west and south of Newark. Especial care has also been paid to the general direction of the hills in the Jerseys, on Long Island, and West-Chester county, so as to give a complete view of the topography of the country.

We have only to add, that the ingenious projector of this undertaking is eminently qualified to do justice to his subject, and that he has already afforded sufficient evidence of his abilities in this department of literary labour, by the publication of his excellent map of the western part of the state of New-York; and we hope that his present performance is only introductory to some more extensive exertion of his talents.

A Sketch of the Weather and Diseases at Philadelphia, from the 1st of January to the 15th of September of the present year, (1811) *extracted from the Meteorological Register of Dr. William Currie.*

During the chief part of January, the weather was remarkably moderate, when compared with that which has frequently occurred at the same season in former years.

The early part of February was cold and frosty, but the remainder of the month was remarkably calm and warm, with the exception of a few snowy days.

March, with the exception of a very few days, was also unusually dry, calm, and mild.

April was generally dry and mild, though several heavy thunder showers occurred at different times in the course of the month, which rendered the unpaved streets, and the roads about the city, muddy and deep.

May was generally cold, wet, and unpleasant, the wind being mostly from N. E. A few thunder showers also occurred in the course of this month.

A considerable part of June was disagreeably warm and dry. On the 1st, 2d, 13th, 14th, 15th, 16th, 21st, 22d, and 23d, the mercury was never below 80 degrees at 3 o'clock P. M. and on the 22d and 23d it was as high as 87 and 88. Heavy rain, accompanied with thunder, fell on the 2d, 8th, 9th, 10th, 11th, and 12th, and rain, without thunder, on the 3d, 4th, 7th, 15th, 26th, and 27th, making altogether twelve days on which rain fell.

From the 2d to the 12th of July, the heat and drought were extremely great. On the 5th and 6th, the mercury in an eligible situation rose between 3 and 4 o'clock P. M. to 96, and in many parts of the city to 98 degrees, which is as high as it has ever been known to rise in this city. Exclusive of the twelve very warm days, there were eight other days of this month that the mercury was never below 80 degrees at 3 o'clock, and on some it rose to 86. Rain, accompanied with thunder, fell on the 9th, 18th, and 17th, and without thunder on the 11th, 22d, 23d, 25th, and 29th, making altogether nine days on which more or less rain fell. Those rains without thunder were from the eastward, and though more moderate, were of longer continuance, and penetrated deeper into the earth, than those accompanied with thunder.

On the 1st of August, the thermometer, which on the 30th and 31st of July was as high as 86 and 87 at three o'clock, fell to 74 at the same hour, and had been as low as 70 at 9 o'clock A. M. From the 1st to the 17th inclusive, the mercury never rose above 80, but was generally below 75. During this interval, there were nine days on which it rained, and the quantity of rain was so great, that all the ponds and ditches overflowed, and all the low grounds in the vicinity of the city were covered with water to a considerable depth. On the 4th and 16th the rain poured down in torrents, and the explosions of thunder were frequent and violent. From the 18th to the 22d inclusive, the heat was very great, and the atmosphere became loaded with exhalations from the stagnant water and moist ground. On the 18th the mercury rose to 84 at 3 o'clock P. M. on the 19th to 86, on the 20th to 88, and at 4 o'clock to 90, and on the 21st to 88 ; but on the 22d it fell to 84, soon after a thunder shower. From the 23d to the 29th the wind came constantly from the N. E. during which time the atmosphere was moist and disagreeably cold to sensation, though the range of the thermometer was between 70 and 76. But on the 30th it rose to 78, in consequence of a change of wind, and from that time to the 5th of September the air was disagreeable, calm, and hot.

On the 1st of September the mercury was 81 at 3 o'clock P. M. on the 2d 84, on the 3d 84, and on the 4th 86. On the 5th it fell to 82, on the 6th and 7th it fell to 74 and 72, and on the 8th, 9th and 10th to 68 and 66, with the wind from N. E. On the 11th the wind shifted to S. E. and became calm, accompanied with steady rain ; cleared up warm in the evening. 12th, 13th and 14th, wind southerly, with flying clouds and light breeze ; thermometer, 72, 75, and 72. Ponds and ditches still full of water.

The inhabitants of Philadelphia, including the district of Southwark, and the township of the Northern Liberties, enjoyed a greater share of health this year than usual, till after the sudden change of temperature which took place in June, soon after which a considerable number of children and several adults became affected with a painful disorder of the bowels, accompanied with frequent griping and vomiting, sometimes accompanied with scanty liquid or watery stools, but without any mixture of blood or mucus, and seldom with much discharge of bile. With several patients, the disease, preceded by symptoms which indicate the presence of sphacelus, terminated fatally in six or seven days, and sometimes sooner, but without being accompanied in any case with vomiting of black matter, though I have frequently seen infants, in the early part of summer in former years, who were afflicted with enteritis, discharge a black coloured mixture both from the stomach and bowels before the mortal termination of the disease, which resembled the matter thrown up by vomiting in the last stage of fatal cases of the malignant yellow fever, in every respect, excepting that it did not contain any of those small flaky particles, which distinguish the matter vomited toward the fatal conclusion of the last mentioned disease from the matter vomited in any other disease, excepting in fatal cases of gastritis; which, as appears from the cases and dissections of the late Mr. Stark, exhibits precisely the same symptoms before its fatal conclusion, and the same appearances in the stomach, (though the blood and the different viscera have a very different appearance) as are observable in fatal cases of the malignant yellow fever.

I have frequently seen infants have very dark coloured evacuations after taking calomel, which the inexperienced, mistaking for atrabilis, have persevered in carrying off by the very means which induced it, till the little patients have been carried off with it.

Soon after the sudden decrease of temperature which had been so excessive during the fore part of July, exclusive of several cases of genuine cholera, (which is always a spasmodic affection of the stomach and intestines, unconnected with inflammation or fever, and originates from sudden changes of temperature, independent of marsh miasmata) a number of persons were attacked with a painful disorder of their bowels, accompanied with griping, sickness, and frequent inclination to puke; and with alternate sensations of cold and heat, resembling the forming stage of the enteritis, or inflammation of the intestines, which, as well as the similar disorder that had occurred in June, instead of requiring anodynes, antispasmodics, or diffusible stimulants, were relieved by such remedies as succeed best in cases of enteritis, or other internal inflammations.

A few cases of dysentery also occurred at the same time; but cases of catarrh and rheumatism became much more numerous, and have continued more prevalent within the city than any other disease, excepting the hooping cough.

I have seen but few cases of the intermittent fever this season, within the limits of the thickly settled and paved parts of the city, excepting those that had lately returned from unhealthy situations in the country; though numerous cases have occurred in the suburbs, and in the marshy tract of ground below the city; nor have I seen many cases of fever of the remitting type, or accompanied with bilious discharges, and not a single case of fever with the characteristic symptoms of the malignant yellow fever; which, if we live "in the latitude of pestilence," as has been confidently pronounced by an author of some renown, must be "passing strange," considering the extraordinary high and low temperature which has alternately and frequently occurred, since the beginning of June to this time; especially to those very learned sages, whose sagacity first discovered, that all malignant and pestilential diseases originate from the exhalations which issue from dead animal and vegetable substances, during the process of putrefaction; and, who consider the gutters on each side of the streets, the covered sewers, the docks or slips, the temples of Cloacina, the grave yards, the decaying wharves, the new made ground, the mouldering walls of houses, and the pump wells, as the grand manufactories of these pestiferous exhalations.

I have always observed intermittents and remittents to make their appearance in the marshy tract of country, to the south of the city, and in the suburbs, where the ground is level or low, and moist and unpaved, much earlier in the season than in the thickly settled and paved parts of the city. This I consider a strong argument against the opinion maintained by certain gentlemen, that the malignant yellow fever originates from the same cause as the intermittent fever, only increased in its destructive power by the influence or operation of some supposed unsalutary change in the constitution of the atmosphere; otherwise, the malignant fever would also make its first appearance in the same situations as the intermittent fever, for some time before it unmasked its hideous visage within the more salubrious limits of the city.

Observations on the Weather of the City of New-York, for the months of July, August, and September, 1811.

JULY.

The weather of this month was remarkably distinguished for its extreme heat, particularly during the first ten days, which was greater for the same length of time than has ever been experienced in this city. The thermometer on the 3d stood, at 3 o'clock, in the shade, at 93 degrees; on the 4th, at 90; and, on the 5th, at 9 A. M. 86, at 12 noon, 90, and at 2 P. M. at 93 degrees. On the 6th it rose as high as 96; the wind during these several days was chiefly from the south. The following week it became somewhat moderate, was occasionally overcast; wind easterly, and a refreshing shower fell on the 11th. On the 18th, 19th, and on the 20th more rain again fell. For the remainder of the month the weather preserved an uncommon uniformity, the mercury in the thermometer experiencing a change but of few degrees, being generally at 7 A. M. at 72—76, at 3 P. M. 78—84, at 7 P. M. 73—78. During this time also there were many cloudy and sultry days, and some rain. On the 31st, however, the thermometer stood at 3 P. M. at 86, and on the evening of the same day, we again had more rain, accompanied with wind from the south-west, which induced a very sudden change in the temperature of the weather.*

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* From the accounts received from various parts of New-York, and from the different states, the same information is afforded relative to the extreme heat of July. In Poughkeepsie, the intensity of the heat during some of the first days of this month is supposed not to have been equalled since the settlement of the country. The water Fallkill, a clear, running stream of considerable magnitude, a little north of this village, became so heated, that the cattle refused to drink thereof, and the fish therein died, and floated in large quantities upon the top of the water.—(*Public paper.*) At Hudson, on the 3d, the thermometer stood at 98, and on the two preceding days at 96. Similar to this are the observations made in Vermont, New-Jersey, &c; and at Philadelphia, on the 6th, at 5 o'clock, in the shade, the mercury stood as high as one hundred degrees.

AUGUST.

The heat of August was moderate compared with that of the preceding month, and in other respects the weather was far more agreeable. On the 1st, so great was the change of temperature within the last twenty-four hours, that woollen clothing and blankets were comfortable. The thermometer, from the 2d to the 17th, inclusive, generally stood at or about 69, at 7 A. M. at 74, at 3 P. M. and at 7 P. M. at 70. During this time the atmosphere was frequently overcast or cloudy, and rain fell on the 7th, 9th, 10th, 11th, and 15th. The weather for the following six days was, for the most part, extremely sultry; the solar heat was much greater, and accompanied with but little wind, chiefly from the south-west; and we had a small shower on the 22d. The remaining days of the month were generally clear and more agreeable; the heat somewhat moderate; a large quantity of rain fell on the 29th, and considerable also on the 30th.

SEPTEMBER.

There were many clear and cool, not to say cold days, during this month. The temperature of the weather for the first seven days, however, was nearly equal to that which we experienced during any part of August; but on the 8th, and from that time until the 18th, it was unusually cool for the season; the wind chiefly northerly or westerly; and some rain fell on the 11th. On the 18th and 19th the mercury stood at 3 P. M. at 79. The remaining days of September were uncommonly cold; thermometer for most part, varying at 7 A. M. from 54 to 60, at 3 P. M. from 62 to 66, and at 7 P. M. from 58 to 64. In the latter part of the month many days were either cloudy or over-east. On the afternoon of the 25th, we experienced a very sudden and severe gale; wind, at the commencement, from the west, and afterwards easterly.

Observations on the Diseases of New-York, for the months of July, August, and September, [illegible]1.

Such has been the very extraordinary heat of the past season, especially during the months of July and August, that complaints of the stomach and bowels have been more frequent, both among adults and children, than we have been accustomed to witness at that season of the year.

Such too was the excitement created by the inordinate temperature of the atmosphere, during the period mentioned, that a very unusual number of inflammatory diseases also, at the same time, appeared, especially catarrh, ophthalmia, gout, rheumatism, inflammation of the liver, and of the intestines. In some cases, and those not a few, inflammation of the brain or coup de soleil, and apoplexy, were evidently ascribable to the same cause.

But so intense was the heat of the last season, that among the labouring class of the poor, and particularly those recently arrived from the northern parts of Europe, and who are unaccustomed to the heat of our climate, a great number, not less than fifty, perished in this city, between the first and fifth of July, by the imprudent use of cold water. Many others also suffered from the same cause, but were relieved from the irritation and spasms thus produced, by the free use of laudanum and brandy, given internally, and spirituous fomentations applied to the bowels; in some cases, death was manifestly hurried on by blood-letting. The use of the lancet, in instances of this kind, cannot be too severely reprobated. Upon future occasions, the Board of Health, we trust, will take measures to prevent the recurrence of accidents of this sort, by exhorting our citizens to observe the valuable directions prepared and published by the Humane Society of this city. Although the heat of the past season has produced such fatal effects; has greatly increased the violence of the ordinary complaints of summer, and has been productive of many inflammatory diseases not commonly met with during that season, yet, it is certain that the febrile diseases of summer and autumn, viz. intermittent, remittent, and typhus fevers, were not more than usually prevalent, nor manifested any increased malignity, but, in all respects, preserved their ordinary character and duration.

As to *yellow fever*, we have once more the pleasure to congratulate the citizens of New-York on our total exemption from this terrible pestilence, notwithstanding the very different state of atmosphere experienced during the past summer from that of the preceding season, when we were equally exempt. Then, we had not indeed a very great degree of heat, but certainly a great degree of moisture, and were not wanting in filth; now, we have had heat to a degree scarcely ever experienced in our climate, with rather a dry atmosphere; but, as to filth, perhaps we have not for ten years had so much. Some of our slips (Peck-slip in particular) have been, and still are in such a wretched state, as constantly to emit mephitic gas, insufferably offensive to the senses of all who have the misfortune to live in their neighbourhood. In the eloquent language of Doctor ———, who, in his account of Brooklyn, in 1809, when he was sent over by the health officer to hunt up the yellow fever in that village: "a fermentative process was so perceptible to the eye, that the surface was covered with bubbles, continually bursting, and emitting a gas intolerable; from which, *thousands* of poisonous vapours might exhale, and infect a large city."[1] But, we have had, what the Repository and Mr. Noah Webster consider of more consequence, both as cause and harbinger of the yellow fever, than all other causes united, namely, *a comet*; yes, we have had a comet, with its fiery tail, which, according to these gentlemen, proves, beyond question, a pestilential atmosphere, that ought to fill the whole human race with horror. Besides this, we have had an almost total eclipse of the sun; yes, we have had all the requisites to generate pestilence, in abundance; excessive heat, a moderate degree of moisture, plenty of filth, one or two eclipses, and a comet into the bargain! But, notwithstanding all this, we have entirely escaped the pestilential yellow fever; for, *we have had a wise quarantine law, which has kept all vessels arriving from the tropics from approaching nearer than three hundred yards to our wharves.*

We believe that it may with strict truth be asserted, that the past season, and the season preceding, have, both, contained as many marks of a pestilential atmosphere, as we used to breathe ten years ago. What "the mortality among the cats" has been, we have not learned; "the cats (says Webster) perished in 1797," and, we presume, cats perished in 1810 and 1811; but the mortality among the dogs has been unusually great, ever since the day that the corporation passed their fatal ordinance against them. The fish, we believe, have done pretty well this season; we have heard of no sickly shad upon the coast; and those brought to our market, it must be confessed, instead of being "thin, lean, and small," as Mr. W. says they were in 1791, have been uncommonly thick, fat, and large; whether "the codfish taken on the banks of Newfoundland were, (or were not) thin, small and sickly," we have not heard. Of the unfortunate *blue-fish* among the Indians, mentioned by the same writer, we have not heard a syllable. Tornadoes, the most tremendous, have been experienced in several parts of the United States, and probably hail stones have fallen at the same time; although we will not undertake [illegible]ate, that they ever equalled, upon an average, those which fell in Paris, as mentioned by Mr. Webster, which, he says, were eight pound weight a piece; rather larger than a common peck measure. Famine, we incline to believe, has not been experienced, even in Vermont, at least, not to that degree it did in 1788, when the poor Vermontese were "reduced to the necessity of feeding on tad-poles, boiled with pea-straw," as is recorded by the same ingenious and sagacious author, as the Medical Repository calls *him*, in his "great work," as they call *it*. As to the hardness of the water, and sickness of the oysters, which, he thinks, decide the point, that the yellow fever is of domestic origin, and that it has its source in the elements alone, we shall say nothing. In '93 and '94, he assures us, that the oysters on the coast of Connecticut and Rhode Island, were "all sickly, watery, and tasteless." And this, probably, suggested to Dr. R—d, who, in turn, suggested to his townsmen, the Bostonians, the idea of passing a law against eating oysters, in order to prevent the prevalence of the yellow fever among themselves, who passed a law accordingly; and, as people are very apt to go on when they have once got hold of a good thing, the "Boston folks" not only forbid eating oysters, which are always poor and thin in summer, but included clams also, which are then in perfection; so that for several years, no man in Boston has tasted either oyster or *clam*, from May to October, when the quarantine laws cease. We had once a law against eating oysters here, also, between May and September; but as to clams, we did not include them, for the reason above given, and because they are not spelt with an R. The New-Yorkers, however, have always eat both oysters and clams all summer long, and we have had no more of the yellow fever for the last six years than the Bostonians, who do not eat them. Vegetation has, we believe, been as luxuriant during the last six years as heretofore. That caterpillars were very numerous the last season, and pestered the kitchen maids, is too well known to need assertion; that mosquitoes abounded, we may safely appeal to the inhabitants of Newark; and that flies have fallen victims the present year to some great epidemic, was evident to every one who took the trouble to look upon the ground as he walked beneath the poplars of Broadway and the Battery; though, whether those flies turned pale after death, like those mentioned by Mr. W. we are unable to state with sufficient certainty. The birds, we believe, have, the past year, eat their cherries and berries as they were wont; a pleasure which, the Medical Repository informs us, was denied them in a yellow fever season at Wilmington, N. C. A letter from one of the valuable correspondents of that learned work, begins his account of the yellow fever in a southern state thus: "*The cherry trees were undisturbed by the common ærial warblers; the marshes deserted by the red-winged chirpers; or the hedge-warblers had fled to some more friendly clime,*" [so as to be fairly out of the way of the yellow fever.] Guinea pigs, too, have not been numbered among the victims to the "corrosive quality of atmospheric water," "induced by septic acid," as we are informed by Dr. Mitchill they were formerly. And we have the candour to confess, that we do not believe that such pestilential exhalations have at any time issued from the chimney of any house in New-York, containing sick people, as to "kill dead upon the spot" five quails out of a flock flying over the house; which we also find duly recorded in the Med. Rep. vol. 1. p. 524. and also in Webster, vol. 1. p. 248. We do not know, for we have not heard, whether a certain learned professor's electrical machine has operated, or even been in order to operate, any time within the last six years. Concerning the circumstance communicated to Dr. Mitchill by that learned gentleman and zealous champion for domestic origin, the late Dr. Cowan, viz. *that soap, if mixed with water, and left to stand an hour in the third story, will become decomposed, and refuse to make good lather*, as we learn was the case in the epidemic in 1798, we frankly confess we believe it, and believe also that it will forever be found to be the case, whenever Dr. Mitchill chuses to put it to the trial.

But a truce to badinage. Is it not astonishing—is it not painful and humiliating, to find men of sense and character thus giving into the greatest absurdities, and yielding up themselves to the weakest credulity, in their futile attempts to support a theory?—a mistaken and most pernicious theory!

TO CORRESPONDENTS.

Communications have been received from Doctors M'Bride, Garden, Currie, and several other correspondents, which will be attended to in our January number.

We have also unwillingly postponed, for the same number, the Reviews of Dr. Williamson's excellent performance on the Climate of the United States, and of the late practical work on the diseases of this country, from the pen of Dr. Currie.

Errata.—In the last number, p. 100, l. 3, instead of "that *peculiar* species of contagion," read "that *particular* species of contagion — peculiar to that disease." In p. 93, l. 14, insert "*the*" between "rebuke" and "bitter."

John R. Murray delin.

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THE AMERICAN MEDICAL AND PHILOSOPHICAL REGISTER.

JANUARY, 1812.

ORIGINAL COMMUNICATIONS.

I.

SKETCH *of the Origin and Progress of the* MEDICAL SCHOOLS *of* NEW-YORK *and* PHILADELPHIA*; being an extract from an Introductory Lecture delivered in the College of Physicians and Surgeons, by* DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine, in the University of New-York.*

(With an engraved view of the New-York Hospital, by Leney.)

INSTRUCTION by lecture has ever been considered one of the best means of imparting knowledge; and if we inquire into the literary history of different nations we shall find, that according as they have been more or less enlightened, institutions for this purpose have been established and supported.

In corroboration of this fact, it may be remarked, that the city of Athens, in its most flourishing period, was proudly pre-eminent in this respect, and justly boasted of her *numerous schools*, as well as of her *philosophers* who presided over them.

Those who are conversant in classical literature need not here be reminded of the "Academy of Plato," the "Lyceum of Aristotle," the "Porch of Zeno," the "Cynosargum of Antisthenes," or of the "School of the Garden," in which Epicurus delineated "the origin and nature of things," and delivered his first lessons of "tranquillity and temperance" to a crowded and delighted audience.

In like manner medical schools have ever been considered among the most efficient means of educating youth designed for the practice of physic. Their institution is almost coeval with the first dawnings of medical science, and their utility has been sanctioned by the experience of all ages.

The medical schools of Cnidos, Rhodes, Cos, and Epidaurus, existed among the Greeks even anterior to the days of Hippocrates, and were founded by the same family, the Asclepiades, from whom he descended: and since his day, such is the connexion that has ever been preserved between philosophy and medicine, that every nation, distinguished for the cultivation of letters, has also been celebrated for its medical institutions.

From the declension of the school of Cos, that of Alexandria became the most distinguished seat of learning, and continued to be so until the middle of the eighth century. But it was no less celebrated for its medical school, at which not only Ætius and Paulus, but most of the Greek physicians, after the time of Celsus, received their education. Even during that dark period, which intervened between the subversion of the Roman empire and the revival of learning, in the commencement of the sixteenth century several medical institutions were founded by the Arabians, and to which we are, in a great degree, indebted for the preservation of that knowledge which had been derived from the Greeks.

Since that period medical schools have been established in almost every city of the civilized world. I need not here recount to you the numerous institutions of this kind which have been successively established in Spain, Italy, France, Germany, Holland, and in the last century in the principal cities of Great-Britain. They are too familiarly known to require such recital. But the utility of medical schools is not confined to the youth who frequent them, nor even to the benefits which the profession may derive from the talents and learning of the pupil: but such are the labour and inquiry, so extensive and varied the researches which the office of teaching necessarily imposes upon the instructor, who duly regards the welfare of his pupils and the honour of his profession, that in this respect also, medical schools have led to numberless discoveries and improvements. In this view they have been, perhaps of all others, without exception, the most fruitful source of improvement in the healing art. To this source we are not only indebted for the inestimable writings of those celebrated teachers, Hippocrates and others among the ancients, and for those of Hoffman, Haller, Whytte, Boerhaave, Albinus, Cullen, Fordyce, and the Gregories, among the moderns; but to the discoveries of Harvey, a teacher of anatomy in the University of Cambridge, of Asellius of the school of Paris, Rhuysch of that of Amsterdam, Morgagni of Padua, Walther and Meckel of Berlin, the Hunters, Hewson, and Cruickshanks of London, Black and the Monroes of Edinburgh, who were all distinguished teachers in the several schools to which they were attached, our profession owes its most important improvements.

But let us not confine ourselves to the Eastern hemisphere: the light of science has also reached our shore, and, we trust, has kindled a spirit of improvement which will not only reflect, but multiply, the rays which have been borrowed.

In this country Medical Schools are comparatively of recent date. Although the American colonies could boast of several medical characters, distinguished for general literature as well as professional erudition, no attempt was made to establish a regularly organized school for the purpose of medical instruction, until the year 1762. As early, however, as 1750, the body of Hermannus Carroll, executed for murder, was dissected in this city by two of the most eminent physicians of that day, Drs. John Bard and Peter Middleton, and the blood vessels injected for the instruction of the youth then engaged in the study of medicine: this was the first essay made in the United States for the purpose of imparting medical knowledge by the dissection of the human body, of which we have any record. But, notwithstanding this first laudable effort of individuals, a regularly constituted medical school was not completed in this city until the year 1769. In the mean time, a few gentlemen, who had been distinguished for their literary and professional attainments, undertook an establishment of this kind in the city of Philadelphia. In 1762, Dr. William Shippen, the late eminent professor of anatomy of that city, returned from Europe, where he had finished his medical education, under the direction of that celebrated anatomist and physician, Dr. William Hunter, of London. The pupil, fired with the spirit of his master, resolved to extend the benefits of his instruction to the youth of his native city then engaged in medical study. His first class in 1764 consisted of ten pupils, but he lived to see that small beginning extend into an establishment that annually educated between two and three hundred.

In 1765, Dr. Morgan met a few students, in like manner unfolding to them the institutes or theory of medicine, including the materia medica, and the principles of pharmaceutic chemistry. Dr. Adam Kuhn, who had been a pupil of the celebrated Linnæus, upon his return to his native country, was also appointed in 1768 to the joint professorship of botany and materia medica in the college of that city; and in 1769, Dr. Benjamin Rush, the present distinguished professor of the theory and practice of physic in the University of Pennsylvania, who had just completed his course of medical studies at the University of Edinburgh, first became a teacher of chemistry in the then College of Philadelphia. Long may his useful labours be continued to the advantage of his numerous pupils, the benefit of the profession, and the honour of our country. While those gentlemen were all zealously occupied in the several departments of anatomy, surgery, the theory and practice of physic, materia medica, and chemistry, the venerable Dr. Thomas Bond exhibited to the pupils, at the bed side of the sick, in the Pennsylvania Hospital, a practical illustration of those principles in which they had been instructed, and these were the first Clinical Lectures that had been delivered in this country. The meed of praise is certainly due to the trustees of the College of Philadelphia, and the distinguished president of that body, Dr. Franklin, who at that early day established *the first* medical institution in this country.

New-York did not long remain an inactive spectator of the important example set before her by her sister colony. As early as 1768, a similar establishment for medical education, was opened in this city, in which were united the learning and abilities of Drs. Clossey,* Jones,† Middleton,‡ Smith,§ Tennent,‖ and the present president of this College.¶

About the same time, in consequence of a public address delivered by Dr. Samuel Bard, at the first medical graduation in 1769, a very important addition was made to the means then afforded of medical education, by the establishment of the New-York Hospital. The necessity and utility of a public infirmary, to use the language of Dr. Middleton, "was so warmly and pathetically set forth in that memorable discourse," that upon the same day on which it was delivered, a subscription was commenced by his excellency Sir Henry Moore, then governor of this province, and the sum of eight hundred pounds sterling collected for that establishment. The corporation of the city, animated by the same public spirit and active benevolence, in a short time added three thousand pounds sterling to the first subscription; when the united amount was employed in laying the foundation of that valuable institution, now the pride of our city, and alike devoted to the purposes of humanity, and the promotion of medical science.*

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* Professor of Anatomy.

† Professor of Surgery.

‡ Professor of Physiology and Pathology.

§ Professor of Chemistry and Materia Medica.

‖ Professor of Midwifery.

¶ Dr. Samuel Bard, then Professor of the Theory and Practice of Physic.

The Medical School of New-York, thus provided with professors eminent for their abilities and learning, and an infirmary for the purpose of clinical instruction, promised to be productive of all those advantages which were reasonably contemplated at its first institution; but these fair prospects, in common with those of every other literary institution in our land, were not only interrupted, but totally destroyed by the revolutionary war.

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* In addition to this liberal encouragement, it is proper to add, that through the influence of Dr. John Fothergill, and Sir William Duncan, contributions were made by many of the inhabitants of London and other parts of Great-Britain. The Legislature of the state also granted an annual allowance of eight hundred pounds, in aid of the institution for twenty years. The plan of a building was agreed to in 1773, but unfortunately when it was almost completed, it accidentally took fire on the 28th of February, 1775, and was nearly consumed. The American war, which now took place, prevented the rebuilding of the edifice, although the legislature made the liberal grant of four thousand pounds towards repairing the loss. It was not however until the month of January, 1791, that the house was again completed and in a proper state to receive patients, at which time a number was admitted. In 1801, an agreement was made between the Governors of the New-York Hospital and the Governors of the Lying-in Hospital, by which the existing funds of the latter were to be paid to the use of the former institution, on condition that a lying-in ward should be established, and appropriated in the New-York Hospital for the benefit of pregnant women.

The site of the Hospital is elevated, and for its elegance and extent of view is scarcely exceeded by any other similar institution. The building exhibits a front view 136 feet in length, and about 52 feet in height: the depth of the central part is 48 feet and that of each wing 86 feet. In the summer of 1808, a great addition was made to the Hospital, by the completion of the Lunatic Asylum, an edifice 90 feet in length, the width of the wings 65 feet, and of the central part 40. It contains about 60 separate cells, all admirably adapted to the purposes for which they were intended. For further particulars, see an *Account of the New-York Hospital*.—Ed.

Shortly after the peace of 1783, the Regents of the University attempted to revive the Medical School of this city, and created professors for that purpose. But this attempt, owing to circumstances which need not here be related, proved abortive. Although lectures upon many branches of medicine, were afterwards delivered by several gentlemen in their private capacity, no public measures were adopted for re-organizing the Medical School until the year 1791; when an act was passed by the legislature, for the purpose of enabling the Regents of the University to establish a College of Physicians and Surgeons within this state; but that power, thus vested in them by the state, the Regents did not think it expedient to exercise until 1807. In 1792, the Trustees of Columbia College made another effort, by annexing a medical faculty to that institution. By this connexion, it was supposed by its friends and patrons, that the medical school thus restored, would at least have recovered the celebrity it had attained previous to the revolution. How far the liberal views of the trustees of that college, or the expectations of the public have been realized, is too well known to require a single remark on this occasion.*

About the same period of time, the present Medical School of Pennsylvania was revived, and since that event has acquired so much celebrity, that in the number of its pupils, it is probably not even surpassed by the University of Edinburgh. That institution has not only become a source of honour and emolument to its professors, and the means of advancing the literary reputation of the state of Pennsylvania, but has become no inconsiderable source of revenue to the city of Philadelphia. It is calculated that at least 150,000 dollars are annually expended in that city by the students resorting to its medical school from the different parts of the United States. Without dwelling upon the inquiry to what causes the comparative failure of the medical school of Columbia college, and the unexampled success of that of Philadelphia, are to be ascribed, I proceed to observe that the honourable the regents of the university of New-York, after the most mature deliberation, after devoting the most serious attention to the respective rights and claims of the colleges of this state, as well as to a remonstrance which was presented to them by certain individuals of this city, in the year 1807, did unanimously resolve, immediately to grant a charter for the establishment of the present College of Physicians and Surgeons; as an institution, which, in their opinion, would be calculated to reflect honour upon our city, and in its advantages would be commensurate with the wealth and commercial importance of this great and growing state. The legislature, actuated by the same spirit, and sensible of the benefit to be derived to the community at large, from such an establishment, in the following year, expressed their approbation of the proceedings of the regents, by liberally appropriating 20,000 dollars to its support. During the first three years the success of this school exceeded the most sanguine expectations, and gave abundant evidence that the state of New-York possesses the most ample resources for establishing a system of medical education, equal in all the means of instruction with any institution of this or any other country. Such too were the favourable impressions which had been created upon the minds of the regents, its founders, that upon receiving information of the events which had lately occurred to produce a temporary check to the progress and usefulness of this hitherto promising institution, they immediately, and with the same activity and zeal that led them to the first organization of the college, adopted the most efficient means, not only of removing out of the way every impediment to its prosperity, but at the same time of reorganizing the institution in such manner as they conceived calculated to insure its permanent success and usefulness.

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* See Observations on the Establishment of the College of Physicians and Surgeons, in the city of New-York. By David Hosack, M. D. *New-York*, 1811.

Such, young gentlemen, has been the solicitude manifested by the regents of the university and the legislature of the state, in providing for you the means of medical education. But to the liberality of the legislature you are not only indebted for the appropriation which has been already noticed; by the purchase of the Botanic garden, which has recently been placed by the regents under the direction of the professors and trustees of this college, you have also access to an additional source of instruction, which is enjoyed by no other medical seminary in the United States, and one highly necessary to every accomplished and well educated physician. Nor are these the only advantages which are now presented to the student of medicine in the city of New-York; in the College of Physicians and Surgeons he has not only, by means of private dissection and an anatomical museum, the opportunity of obtaining a correct knowledge of the structure of the human frame; he not only enjoys the benefits of an extensive course of chemical experiments, and under the direction of the learned professor of natural history, of becoming acquainted with the various subjects which are embraced in that very interesting and extensive department of human learning, but in the New-York hospital, which incloses within its walls nearly four hundred patients, he has opportunities of observing the diseases which most frequently occur in this climate and country, and which he will have occasion most frequently to meet with in practice, than in any other similar establishment in the United States.—Even the Infirmary of Edinburgh, the Hotel Dieu of Paris, or the Hospitals of London, do not afford to their students more real advantages than are to be obtained at this well regulated asylum.

In this excellent institution, you also have access to an extensive medical library, consisting of the most respectable writings, both of ancient and modern times. I cannot pass by this circumstance without bearing testimony to the liberality of the gentlemen who compose the board of governors of that institution. Entertaining a due sense of the importance of that establishment, as a place of instruction to the student of medicine, they have not only embraced every opportunity, but they have eagerly sought for occasions by which they could render it most profitable to the pupils who attend the practice of the house, as well as a comfortable asylum to the sick, who are the objects of its charity.

Upon the advantages which the liberality and paternal care of the Regents of the University, aided by the munificence of an enlightened Legislature, have thus secured to our profession, I congratulate you with the utmost sincerity. Let us now by our exertions demonstrate to the world, that the zeal and public spirit which those respective bodies have manifested for the general interests of learning, have been no less honourable to themselves than beneficial to this community.

Although the city of New-York, by its geographical position in the union, the continued intercourse which it holds with the different states, as well as with most of the commercial cities of Europe, is thereby entitled to many pre-eminent advantages, it must be acknowledged, that it has not hitherto sustained that high literary character that has distinguished the metropolis of Pennsylvania; but we trust the time is at hand when the state of New-York, and this otherwise flourishing city, will be rendered the literary, as it is now the commercial emporium of our country. Shall the state whose commerce renders her first in wealth, whose population amounts to nearly a million of inhabitants, and whose annual revenue to the union has exceeded five millions of dollars, not contribute her quota in wealth, talents, and exertions to the promotion of science? Shall her literature only consist in the means of increasing her number of dollars; shall the Tontine Coffee-House be her only university; and the receipts of customs and insurance companies her colleges? Our patriotism, our pride of character, our love of life, or what is stronger, our love of *gain*, forbids such apathy. No, we will not consent that such negligence shall continue to mark the character of our state. And I see in this auditory, gentlemen whose talents and literary attainments have enabled them to appreciate the importance of this subject, and whose patriotism and merited influence in our public councils have given us every assurance that our exertions will continue to receive that support which a liberal and enlightened government has it in its power to bestow. Let us then be animated by these prospects, and redouble our exertions. With these impressions I enter upon the duties assigned me in this university.

II.

FACTS *and* CALCULATIONS *respecting the Population and Territory of the United States of America.*

To the Editors of the American Medical and Philosophical Register,

GENTLEMEN,

After perusing your interesting prospectus, I thought that the inclosed pamphlet might find a place in the Register, and not be disagreeable to your readers. When it was first published about fifteen years ago, it was much approved of by those who read it, but they prudently referred to time for a final decision on its merits. Finding it lately among my papers, and having communicated it to several of the great proprietors of land in this state, they assured me that what they had experienced in their own concerns for these many years past, was an unequivocal demonstration of the truth of the calculations contained in this little pamphlet; therefore I venture to present it without further comment.

A SUBSCRIBER.*

SECTION I.

OF THE POPULATION OF THE UNITED STATES.

It is well-known that about a century ago, the country which now composes the United States of America, contained but a few thousand civilized inhabitants; and that now, the same country contains four or five millions.

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* This essay, we understand, is the production of P. Colquhoun, Esq. the distinguished author of the Police of London. ED.

But the causes of this vast increase of numbers seem not to be equally well understood. It is believed that many persons still suppose the population of America, to be chiefly indebted for its growth to emigrations from other countries; and that it must become stationary when they cease to take place. Some facts and calculations will be set down upon this sheet, to ascertain the ratio of the natural increase of the inhabitants of America, and to show that the great progress of wealth and population in that country, is chiefly derived from internal causes, and of course, less liable to interruption from without.

The highest estimate, that is recollected, of the number of inhabitants removing to America in any one year, supposes the number to be 10,000. (1) If the same number had removed every year since the first settlement of the country, it would make in the whole about 1,600,000. But it is to be remarked that this estimate was made for a period when emigrations were unusually numerous; that during the many years of war which have taken place they have been very few, and that in former years, when the number of emigrants was complained of *as an evil*, it was not reckoned so high. (2) We may therefore suppose that 5000 persons per annum, is a liberal allowance for the average number of persons removing to America since its first settlement. This, in the year 1790, would amount to 800,000 persons.

At the end of 1790, and beginning of 1791, there was enumerated in the general census, the number of

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(1) Cooper's Inform.

(2) Douglas's Summary, vol. 2, p. 326.

3,993,412 inhabitants. (3) As some places were not enumerated at all, and from others no return was made, there can be little doubt, but the actual number then, was something more than 4,000,000. Supposing them to have increased, so as to double their numbers once in twenty years, then, in the several preceding periods of twenty years, since the year 1630, the numbers would stand thus:

At the end of	1790	4,000,000
	1770	2,000,000
	1750	1,000,000
	1730	500,000
	1710	250,000
	1690	125,000
	1670	62,500
	1650	31,250
	1630	15,625

But as this last date reaches back to the infancy of the first settlements in North America, it can hardly be supposed that they contained so many as 15,000 inhabitants. It follows, therefore, that they must have doubled their numbers oftener than once in twenty years; that is, that they must have increased faster than at the rate of 5 per cent. compounding the increase with the principal at the end of every twenty years.

To determine how far this ratio of increase is justified by other facts, some pains have been taken to ascertain and compare the number of inhabitants at four different periods, viz. 1750, 1774, 1782, and 1791:—The following estimate has been formed of those numbers about the year 1750:

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(3) See the Census of 1791.

(1) 1751, Massachusetts contained		200,000
Connecticut,		100,000
(2) Rhode-Island,		30,000
New-Hampshire,		24,000
(3) In 1756, one account says New-York contained	100,000	
(4) Another	96,775	
In 1750, suppose therefore it contained		90,000
In 1745, New-Jersey contained	61,403	
In 1750, suppose therefore		66,000
(5) In 1760, in Pennsylvania the taxables were.	31,667	
In 1793, Ditto,	91,177	

By a conjectural proportion, therefore, the number of taxables in 1791, must have been about 86,000. Then as 86,000 is to 434,373, (the number of inhabitants in 1791,) so is 31,667 to 159,945 the number of 1760, which subtracted from the census of 1791, gives an increase of 274,428 for thirty years, of which one third part, or 91,379 is the mean increase for ten years: but supposing the increase for the ten years previous to 1760, to have been but 70,000, there will remain for the whole number in 1750, 89,945

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(1) Doug. Sum. vol. 2. p. 180.—Smith's Hist. of New-York, p. 225

(2) Morse's Geography says that in 1748, Rhode-Island contained 34,128.

(3) Smith, p. 225.

(4) Morse's Geography.

(5) Coxe's View, p. 481.

Delaware.—Suppose in the same proportion to its present numbers as Pennsylvania,		12,224
(1) 1751 or 1762, in Maryland the taxables were	40,000	

Taxables are understood to be all white men above 16 years of age, and all black persons from 16 to 60—say then that to every

100 white males above 16 there are
100 ditto below ditto, and
200 white females of all ages—
200 blacks from 16 to 60, and
200 of all other ages.

(2) Total 800, of which 300 are Taxables, then as 300 is to 800, so is 40,000 to	106,666	
But as in those states the number of blacks is to that of whites, only as 10 to 11, deduct therefore 1-22d part of this number	4,121	
		102,545
(3) 1750 in Virginia, tytheables were	100,000	
Then by the same rule as before, as 300 is to 800, so is 100,000 to	266,666	
Deduct in the same proportion as for Maryland	12,121	
		254,545

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(1) Douglas, vol. 2, p. 363.
(2) Jefferson, p 129.
(3) Jefferson's Notes, p. 122.

The numbers of the following states must be supplied in a great measure from conjecture:

1710	In North-Carolina, the whole number of inhabitants	10,000
1750	Suppose one third of the increase since 1710	120,000
	South Carolina.—Suppose in the same ratio to its present numbers as North-Carolina	80,000
	Georgia.—The settlement of it but then lately commenced: suppose it had	10,000
About 1750.	—Total of inhabitants in the Thirteen Colonies	1,179,259
1790.	—Whole number in the Thirteen States	4,000,000

Being about 3,4-10 times the number of 1750. If this increase be computed in the manner of simple interest, it affords a ratio of 5,98, or nearly six per cent. or in the manner of compound interest of between 3 and 3 and a half per cent. Any number increased in the compound ratio of 3 per cent. per annum is doubled, in about twenty-three years and a half, and at 3 and a half per cent. in about twenty years; that is, it is equal to five per cent. simple increase for the same period.

The next period which will be adverted to, is the year 1774.

An able and ingenious author, (1) who was very thoroughly conversant in colonial affairs, supposes, that at that time, the whole number of colonists could not exceed 2,141,307. The difference between this number, and that of 1750, gives a compound increase of hardly 3 per cent.—while the subsequent ratio, up to 1790, is more than 4 per cent. per annum. These different rates of increase, while they confirm the general principles here contended for, may lead to a suspicion, that Governor Pownall's calculation is too low, or what perhaps is more probable, that the foregoing estimate for 1750 is somewhat too high.

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(1) Pownall's Memorial.

In 1782, a return was made to Congress of the inhabitants in the several states, by which there appeared to be		2,389,300
This return was then believed to be accurate, for it was made the rule for the assessment of public burthens among the states. But in 1784, the accuracy of it was attacked by Lord Sheffield, who affirmed it was too great: (1) if it was in fact as much too great as he supposed, then the increase of numbers from that time to 1790 must have exceeded all credibility. But allowing it to have been accurate, the difference between the number of 1790		4,000,000
And this number of 1782		2,389,300
Is		1,610,700
From this deduct for emigrants, viz. 10,000 emigrants per annum, for nine years	90,000	

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(1) Observations, &c. p. 139.

Increase of ditto at 5 per cent. for four years and one half	20,250	
		110,250
Natural increase in nine years		1,500,450

which calculated upon the number of inhabitants returned in 1782, gives the astonishing natural increase of 6,97, or very nearly 7 per cent. per annum.

From these statements compared with each other, it appears that in the year 1790, the actual increase of inhabitants in the United States, beyond the number ever imported, must have been 3,200,000, or after the most liberal allowances, at least three millions. That the whole rate of increase upon the numbers at any given period, has been more than 5 per cent. and deducting for emigrations, that it has been about equal to 5 per cent. for any twenty years successively, or 3 and a half per cent. compound increase for any period that has yet elapsed.

But it may be objected, that no inference as to the future population of America can be derived from these facts, because as the country becomes more thickly settled, the increase will be slower. We have an opportunity of examining what weight the objection possesses.

The eastern states are the most thickly inhabited. The greater part of the emigrations from them, have been either to other states in New-England, or to the state of New-York.

In 1750, New-England and New-York, together contained	444,000
In 1790, ditto.	1,348,942

having more than trebled their numbers in forty years, and increased during all that period, at the rate of more than 5 per cent. upon their original number; and in the compound ratio of nearly 3 per cent. And as many more persons have emigrated from these states, than have come into them from abroad, all this, *and something more*, is their natural increase.

In 1750, Massachusetts contained thirty-two persons, and in 1790, about sixty persons to each square mile.

In 1750, Connecticut contained twenty persons, and in 1790, about fifty persons to the square mile.

In 1750, Rhode-Island contained about twenty-three, and in 1790, about fifty-two inhabitants, per square mile:

So that besides the numerous emigrants these states have sent forth, they have more than doubled their numbers in forty years, and nearly trebled them since they contained twenty persons to each square mile.

(1) Mr. Jefferson has taken some pains to prove that the inhabitants of Virginia double their numbers once in twenty-seven years and a quarter. He also proves by an ingenious calculation, that

(2) In 1782, the numbers in Virginia were 567,614

In 1790, the same country, (part of which made the state of Kentucky,) contained 821,287

giving an increase of $4,\frac{96}{100}$ or very nearly 5 per cent. and doubling their numbers, not in twenty-seven years and a quarter, as Mr. Jefferson endeavoured to prove, but in less than twenty-one years.

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(1) Jefferson's Notes, p. 123.

(2) Ib. p. 128.

Virginia, (exclusive of Kentucky) added about 180,000 to its numbers, between 1782 and 1790, the period when the numerous emigrations to Kentucky caused so great a drain upon its population.

(1) In 1780, the number of militia, west of the Blue Ridge, in Virginia, was 11,440, which multiplied by four, gives for the number of inhabitants 45,760

In 1790, the same county contained 151,235

those countries having more than trebled their numbers in ten years.

It is to be observed that these facts, (and many more of a similar tendency might be adduced,) are drawn from the former and least prosperous state of America; and from periods, which were either absolutely those of public calamity, or at best, were not those of national prosperity: yet, it is apprehended, they sufficiently prove, that the inhabitants of the United States increase, at least, as fast as at the compound ratio of 3 and a half per cent.—that should foreigners cease to remove there, it would not prevent more than one fifteenth, or one twentieth of this increase; and that there are, as yet, no symptoms of this rate of increase being at all diminished by the crowded population of the country. The United States must contain 18,000,000 of people to equal the average of New-England, and 55,000,000 to equal the rate of population in Massachusetts and Connecticut.

The causes of this great increase of population, so peculiar to America, might be readily and satisfactorily explained, by a review of the state of manners, society, property, and government in that country. The discussion would, however, be too long for the present sheet, and is therefore forborn.

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(1) Ib. p. 131.

Calculations of the present number of inhabitants in the United States.

At the end of the year 1790	4,000,000
Increase one year at 3½ per cent.	140,000
1791	4,140,000
Increase one year at 3½ per cent.	144,900
1792	4,284,900
Increase one year at 3½ per cent.	149,971
1793	4,434,871
Increase one year at 3½ per cent.	155,110
1794	4,589,981
Increase one year at 3½ per cent.	160,649
1795	4,750,630
Increase one year at 3½ per cent.	166,172
1796	4,916,802
Increase one year at 3½ per cent.	172,088
1797	5,088,890

SECTION II.

OF THE TERRITORY OF THE UNITED STATES.

It appears from the statement in Sec. I. that the increase of the inhabitants of the United States, is in the compound ratio of about three and a half per cent. and that at the end of the year 1797, their number is about 5,088,890

It is not intended by this statement to convey the idea that the rise in the value of any particular tract of land, will be in the exact proportion here mentioned. In many important instances in America it has been greater, in others perhaps less.

But it is intended to show, that the increase in the value of American lands is, in its nature, like that of *compound interest;* and that assuming the very moderate ratio of three and a half per cent. for the increase of inhabitants, the general rise in the value of property resulting therefrom, is very far above the profit of capital in any of the ordinary ways of employing it. And it is to be remembered, that these statements being matters of arithmetical calculation, are not to be disproved, except by disproving some of the premises on which they are founded.

It ought also to be remarked, that the statement is burthened by the inclusion of all the lands in the United States, and of course, of many millions which are not now for sale, and will not begin to be settled for many years. It is therefore much too moderate, if considered with respect to the lands now in market.

The lowest price at which Congress sell the lands they offer for sale, is at two dollars per acre.

The astonishing low prices of lands in America, have hitherto been occasioned by the want of capital to invest in them. Only a few European capitalists have lately understood the subject; and nobody is ignorant of the immense advantages they have derived from it. The great increase of capital in America, together with the investments which Europeans are beginning to make in lands, will probably raise their value far above the rate at which it has increased at any former period.

Such a conclusion results, not unnaturally, from another consideration, which is this:—the price of any commodity whatever may be raised in two ways—either by diminishing the quantity for sale, or by increasing the demand. But the extension of settlements, and the increase of wealth and population, operate at once, in both these ways, upon American lands; not only diminishing the quantity for sale, but increasing the means and the eligibility of making further purchases and settlements.

III.

GEOLOGICAL OBSERVATIONS *on the United States: communicated in a letter to* JOHN W. FRANCIS, M. D. *Fellow of the College of Physicians and Surgeons, New-York, from the Hon.* SAMUEL L. MITCHILL, M. D. F. R. S. Ed. *Professor of Natural History in the University of New-York, &c. &c.*

Washington, November 21, 1811.

DEAR SIR,

So many occurrences indicative of the progress of science in our country have been made known to me since my arrival at the seat of government, that I do myself the pleasure of communicating them to you.

From a depth of about fifty feet beneath the present surface of the hill where the capitol stands, wood has been raised. The specimens brought to me, possess the organized structure of vegetable matter, but are of a black or carbonated quality, and penetrated by pyrites. On exposure to the atmosphere, the sulphuret of iron frequently undergoes decomposition, and turns to copperas and alum. There seems to be a stratum of muddy and organic substances, underlaying the part of the city of Washington between the buildings in which congress meets and the eastern part of the river Potomac, and I have reason to believe they are much more extensive. For I have seen pieces of solid and unchanged wood, and even a bone of an animal, probably the rib of a whale, that had been discovered under ground, within the limits of this city.

Specimens of organic substances have been brought to me again from the strata, far beneath the present level of the ground near James River, upon which the city of Richmond is built. Wood, sharks' teeth, and bones of whales, found at different depths between fifty-nine and one hundred and two feet, are now before me; and upon a second view, I discern one which looks like the thigh-bone of a squirrel, or some such small animal.

President Madison, of William and Mary College, is engaged in preparing a memoir upon the skeleton of an elephantine animal, found some time ago near the bank of York River in Virginia. The bones rest upon marsh-mud, about twenty feet from the surface of the adjacent ground; and were discovered, as that intelligent and excellent prelate writes me, in consequence of the washing away of the bank, which left them partly exposed to view.

Near the place where the Patuxent joins the Chesapeake, on the western shore of Maryland, bones of an extraordinary form have been brought to me; I presume they belonged to the body of a whale. But what is remarkable, these animal remains were petrified, their bones being penetrated and filled with silicious particles, rendering them at once very ponderous and compact. After having examined them I returned them to the proprietor, that he might preserve them to be added to others which he hoped to find on a further search. I have frequently observed this disposition of the Maryland soil to impart silicious impregnations, in the various specimens of petrified wood that have been brought to me at different times.

These facts from the lands bordering on the Potomac, James, York, and Patuxent rivers, furnish strong evidence, in addition to that we already possess, of the alluvial nature and character of our maritime region, and of the relatively recent date of the geological changes in which it is involved.

But it is not geology alone which offers her communications. The crystalized chromate of iron, found in the neighbourhood of Baltimore, has been presented to me by the kindness of Mr. Samuel Keyser. And to the same gentleman I am indebted for a sample of artificial chromic acid, in elegant and highly coloured orange crystals.

Mr. Leferre has exhibited to me specimens of white, black and clouded marbles, from the quarries in the neighbourhood of Strasburgh, in Lancaster county, Pennsylvania. They all bear fine polishing, and are admirably adapted for monumental and ornamental architecture. The variegated marble from these quarries is almost exactly like that procured from the calcareous strata in the vicinity of Norristown, in the county of Montgomery. The superb pillars which support the gallery, in front of the president's chair in the chamber of the Senate of the United States, consist of marble from the latter of these places; and on comparing the Strasburgh specimens with the Norristown pillars, I was struck with the exactness of the resemblance. What adds to the value of this discovery, is, that the Strasburgh marble can be readily delivered at landing on the tide water of the Susquehannah ; and be conveyed to distant places, with as much ease as that which is conveyed on the floods of the Schuylkill.

I have thus borrowed a few moments from my legislative employments, to let you know what scientific intelligence has reached me, during my fortnight's residence in the district of Columbia; knowing from the interest you take in every thing of that kind, that it will be accepted as a testimonial of the zeal I feel in the cause, and of my esteem for yourself.

SAMUEL L. MITCHILL.

To John W. Francis, M. D.

IV.

Historical Account *of the application of* Steam *for the propelling of Boats ; in a letter, addressed to one of the Editors of the Register.*

It is much to be wished that a regular account of the introduction of useful arts had been transmitted by the historical writers of every age and country, not merely that justice might be done to the genius and enterprise of the inventors, and the nation by whom they were fostered, but that the statesman and philosopher might mark the influence of each upon the wealth, morals, and characters of mankind. Every one sees and acknowledges the changes that have been wrought by the improvements in agriculture and navigation, but seldom reflects on the extent, to which apparently small discoveries have influenced not only the prosperity of the nation to which the invention owes its birth, but those with which it is remotely connected. When Arkwright invented his cotten mills, the man would have been laughed at that ventured to predict, that not only Great-Britain would be many millions gainer annually by it, but that in consequence of it, the waste land of the Carolinas and Georgia would attain an incalculable value, and their planters vie in wealth with the nabobs of the east. A new art has sprung up among us, which promises to be attended with such important consequences, that I doubt not, sir, you will with pleasure make your useful work record its introduction, that when in future years it becomes common, the names of the inventors may not be lost to posterity, and that its effects upon the wealth and manners of society may be more accurately marked. I refer (as you have doubtless conjectured) to the invention of Steam Boats, which owe their introduction solely to the genius and enterprise of our fellow citizens; the utility of which are already so far acknowledged, that although only four years have elapsed since the first boat was built by Mr. Livingston and Mr. Fulton, ten vessels are now in operation on their construction, and several more contracted for.

When Messrs. Watt and Bolton had given a great degree of perfection to the Steam Engine, it was conceived that this great and manageable power might be usefully applied to the purposes of navigation; the first attempt however to effect this, as far as I have yet learned, was made in America in the year 1783. Mr. John Fitch (having first obtained from most of the states in the union, a law vesting in him for a long term the exclusive use of steam boats) built one upon the Delaware. He made use of Watt and Bolton's engine, and his propelling power was paddles: this vessel navigated the river from Philadelphia to Bordentown for a few weeks, but was found so imperfect, and liable to so many accidents, that it was laid aside, after the projector had expended a large sum of money for himself and his associates.

Rumsey, another American, who was deservedly ranked among our most ingenious mechanics, followed Fitch, but not being able to find men at home, who were willing after Fitch's failure, to embark in so hazardous an enterprise, he went to England, where, aided by the capital of Mr. Daniel Parker, and other monied men, he built a boat upon the Thames, which after many and very expensive trials was found defective, and never went into operation. Rumsey's propelling power was water pumped by the engine into the vessel and expelled from the stern.

The next attempt was made by Chancellor Livington, to whom, as to Fitch, the state of New-York gave an exclusive right for twenty years, upon condition that he built and kept in operation a boat of twenty tons burden, that should go at the rate of four miles an hour. He expended a considerable sum of money in the experiment, and built a boat of about thirty tons burden, which went three miles an hour: as this did not fulfil the condition of his contract with the state, he relinquished the project for the moment, resolving, whenever his public avocations would give him leisure, to pursue it. His action upon the water was by a horizontal wheel placed in a well in the bottom of the boat, which communicated with the water at its centre, and when whirled rapidly round propelled the water by the centrefugal force, through an aperture in the stern. In this way he hoped to escape the incumbrance of external wheels or paddles, and the irregularities that the action of the waves might occasion. Not being able with the small engine he used, which was an eighteen inch cylinder, with a three feet stroke, to obtain as I have said a greater velocity than three miles an hour, and fearing that the loss of power in this way was greater than could be compensated by the advantage he proposed from his plan, he relinquished it; but, as I am informed, still thinks, that when boats are designed for very rough water, that it may be eligible to adopt it in preference to external wheels.

Not long after, John Stevens, Esq. of Hoboken, engaged in the same pursuit, tried eliptical paddles, smoke jack wheels, and a variety of other ingenious contrivances, sometimes of his own invention, and again, in conjunction with Mr. Kinsley, late one of our most distinguished mechanicians. None of these having been attended with the desired effect, Mr. Stevens has, since the introduction of Messrs. Livingston and Fulton's boat, adopted their principles, and built two boats that are propelled by wheels, to which he has added a boiler of his invention, that promises to be a useful improvement on engines designed for boats. Whilst these unsuccessful attempts were making in America, the mechanics of Europe were not wholly inattentive to the object. Lord Stanhope, who deservedly ranks very high among them, expended a considerable sum of money in building a steam boat, which, like all that preceded it, totally failed. His operating power upon the water was something in the form of a duck's foot. A gentleman in France, (whose name I have forgotten,) when Mr. Livingston and Mr. Fulton were building their experimental boat on the Seine, complained in the French papers, that the Americans had forestalled his invention; that he had invented a boat that would go seven miles an hour, and explained his principles. Mr. Fulton replied to him, and showed him that attempts had been previously made in America, and assuring him that his plan was quite different. Mr. ———'s would not answer. He had expended a great deal of money and failed: he made use of a horizontal cylinder and chain paddles.

After the experiments made by Mr. Livingston and Mr. Fulton at Paris, a boat was built in Scotland, that moved in some measure like a small boat that was exhibited for some time at New-York, by Mr. French. The cylinder was laid horizontally, and her action upon the water was similar to his; but as her speed upon the water was little better than two miles an hour, I presume she has gone into disuse.

You will not, sir, find this record of the errors of projectors uninteresting, since they serve the double purpose of deterring others from wasting time and money upon them, and of setting in its true light the enterprise of those who, regardless of so many failures, had the boldness to undertake, and the happiness to succeed in the enterprise.

Robert R. Livingston, Esq. when minister in France, met with Mr. Fulton, and they formed that friendship and connexion with each other, to which a similarity of pursuits generally gives birth. He communicated to Mr. Fulton the importance of steam boats, to their common country; informed him of what had been attempted in America, and of his resolution to resume the pursuit on his return, and advised him to turn his attention to the subject. It was agreed between them to embark in the enterprise, and immediately to make such experiments, as would enable them to determine how far, in spite of former failures, the object was attainable: the principal direction of these experiments was left to Mr. Fulton, who united, in a very considerable degree, practical, to a theoretical knowledge of mechanics. After trying a variety of experiments on a small scale, on models of his own invention, it was understood that he had developed the true principles upon which steam boats should be built, and for the want of knowing which, all previous experiments had failed. But, as these gentlemen both knew that many things which were apparently perfect when tried on a small scale, failed when reduced to practice upon a large one, they determined to go to the expense of building an operating boat upon the Seine. This was done in the year 1803 at their joint expense, under the direction of Mr. Fulton, and so fully evinced the justice of his principles, that it was immediately determined to enrich their country by the valuable discovery as soon as they should meet there, and in the mean time to order an engine to be made in England. On the arrival at New-York of Mr. Fulton, which was not till 1806, they immediately engaged in building a boat of what was then considered, very considerable dimensions. This boat began to navigate the Hudson river in September, 1807; its progress through the water was at the rate of five miles an hour. In the course of the ensuing winter it was enlarged to a boat of one hundred and forty feet keel and sixteen and a half feet beam. The legislature of the state were so fully convinced of the great utility of the invention, and the interest the state had in its encouragement, that they made a new contract with Mr. Livingston and Mr. Fulton, by which they extended the term of their exclusive right, five years for every additional boat they should build, provided the whole term should not exceed thirty years; in consequence of which, they have added two boats to the North river boat, (besides those that have been built by others under their license,) the Car of Neptune, which is a beautiful vessel of about three hundred tons burthen, and the Paragon of three hundred and fifty tons, a drawing of which is sent you herewith, together with a description of her interior arrangements.

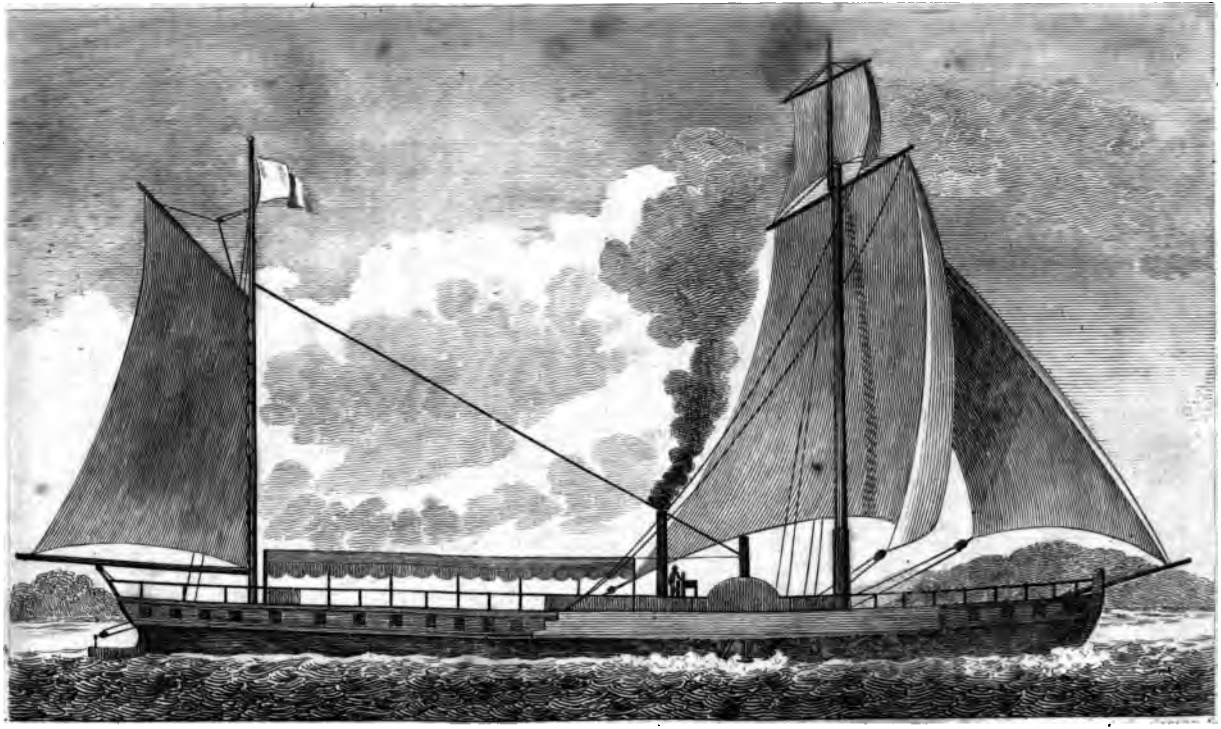
It will appear, sir, from the above history of steam boats, that the first developement of the principles and combinations upon which their success was founded, was discovered by Mr. Fulton in the year 1803, and grew out of a variety of experiments made by him and Mr. Livingston, for that purpose, at Paris, about that period; and that the first steam boat that was ever in this or any other country put into useful operation, (if we except the imperfect trial of Fitch), was built upon those principles by Mr. Livingston and Mr. Fulton, at New-York, in 1807. From these periods the invention of the art may be dated. I will not trouble you with an explanation of these principles; they are now so clearly developed in his patents, and rendered so obvious by being publicly reduced to practice, that any experienced mechanic may, by a recourse to them, build a steam boat. What has hitherto been a stumbling block to the ablest mechanicians of the old and new world is now become so obvious and familiar to all, that they look back with astonishmbnt upon their own failures, and lament the time they have been deprived of this useful invention. Had it not been for a fortunate occurrence of circumstances, it is highly probable that another century would have elapsed before it had been introduced. Past failures operated as a discouragement to new trials; the great expense that attended experiments upon the only scale on which it could succeed, would have deterred any but men of property from engaging in the enterprise; and how few of these are there in any country that choose to risk much in projects, and upon such especially, as have repeatedly proved unfortunate? Add to this, that without special encouragement from the government, and a perfect security of their rights, in case of the success of so expensive and hazardous an enterprise, it could not have been expected that any individuals would have embarked their time, their fame, and their fortunes in it. In the present instance, happily for our country, mechanical talents and property, united with the enthusiasm of projectors in the enterprise, and the enlightened policy of this state afforded it a liberal patronage. Under these circumstances, a new art has happily, and honourably for this country, been brought into existence: speed, convenience, and ease have been introduced into our system of travelling, which the world has never before experienced; and the projectors, stimulated by the public patronage and the pride of success, have spared no expense that can contribute to the ease and safety of travellers. Their boats are furnished with every accommodation that can be found in the best hotels; every new boat is an improvement upon the one that preceded, until they have obtained a degree of perfection which leaves us nothing to wish, but, that the public, duly impressed with the advantage they have received from their labours, may cheerfully bestow on them the honour and profit, to which the boldness of their enterprise, and the liberal manner in which it has been executed, so justly entitle them.

A FRIEND TO SCIENCE.

GENERAL DESCRIPTION OF THE PARAGON STEAM SHIP.

(See the annexed engraving.)

Extreme length one hundred and seventy feet, breadth twenty-eight feet, exclusive of the out building for the wheels, necessaries, stairs, and wood stores, which all project beyond this breadth many feet, making her extreme width about thirty-nine feet. In the rear of the works you descend by a mahogany stair-case to a large platform; on the one hand is the captain's state room, on the other a water closet, opening into the ladies' cabin. In front of the staircase is the ladies' cabin, which contains sixteen births and eight sofas, furnished with beds, when required; opposite to this is the ladies' dining room, which is about thirty feet long and twenty-six wide; it contains twenty births and ten sofas; adjoining to this on the right hand, is a pantry through which you pass into a kitchen, provided with two ovens, a grate for roasting, several boilers and steam boilers, in which dinner can conveniently be dressed for one hundred and fifty persons; connected with this is a dining room for the sailors and servants; these are all on one side of the works: on the opposite is a steward's room and pantry, with four births for the steward and servants. Next to this is a gallery with several births and binns for seamen and servants' clothing, none being allowed trunks; here also is a handsome apartment for the engineer, with two births for himself and the pilot. In front of the works you descend by another mahogany stair-case into the great cabin; this is forty feet long and about twenty-five wide, and has twenty-eight births and twelve sofas, accommodated with beds: on the right hand as you enter is a large pantry which communicates with the kitchen by the



THE PARAGON STEAM-BOAT,

servants' room and with the cabin: on the left hand is a large bar room. In front of this cabin is a forecastle, with births for the use of the seamen. The whole number of beds for passengers is one hundred and four, besides those for the accommodation of the captain, officers, seamen, and servants. The births are so wide as conveniently to admit of two persons, when the boat is crowded, and it is agreeable to the parties. The cabins, besides side windows, are lighted by large sky lights so as to be perfectly airy, and are elegantly furnished with carpets, looking glasses, &c. The meals are served in china. Every upper birth, except a few near the wheels, has a large window, and each has a shelf for the reception of the hat and clothes of the person that takes it. The curtains, which are of fringed muslin with silk drapery, are so contrived that the cornice to which they are fixed draws out, and thus forms a little closet in which a person may dress without being seen from the cabin. On the out work that defends the wheels, and which projects both before and behind them, are staircases to descend into a boat; wells for fish, and necessaries; binns for fewel, which is never suffered to encumber the decks that are left free for passengers to walk, under awnings that cover almost the whole vessel. The average time of a passage to Albany, (a distance of 160 miles) is thirty hours; but it is proposed so to enlarge the engines of the Paragon and Car of Neptune, which are strongly built for the purpose, as to perform it the next summer in twenty-seven hours. A singular advantage of this vessel is, that being built principally of red cedar and pine, and very strongly timbered, and carrying no ballast, were she to fill with water, the passengers would incur no danger, the timber being more than sufficient to float all her weight.

Her length and width, with the small proportion of sail she carries, renders it impossible she can overset; so that to ease, elegance, and speed, this vessel unites the most perfect safety.

V.

A new CLASSIFICATION *of* DISEASES, *proposed by* DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine, in the University of New-York.*

CLASS. I.—FEBRES.

ORD. I.—INTERMITTENTES.

1. Quotidiana.
2. Tertiana.
3. Quartana.

ORD. II.—REMITTENTES.

4. Remittens Biliosa.

ORD. III.—CONTINUÆ.

5. Synocha.
6. Typhus vel Synochus.
7. Dysenteria Epidemica.
8. Pestis Orientalis.
9. Pestis Occidentalis.

CLASS. II.—PHLEGMASIÆ.

10. Phlogosis.
11. Phrenitis.
12. Ophthalmia.
13. Otitis.
14. Odontitis.
15. Catarrhus.
16. Cynanche Tonsillaris.
17. Cynanche Maligna.
18. Cynanche Trachealis.
19. Cynanche Pharyngea.
20. Mastodynia.
21. Pertussis.
22. Pneumonia.
23. Phthisis Pulmonalis.
24. Carditis.
25. Peritonitis.
26. Gastritis.
27. Enteritis.
28. Hepatitis.
29. Splenitis.
30. Nephritis.
31. Cystitis.
32. Urethritis.
33. Hysteritis.
34. Phlegmasia dolens.
35. Rheumatismus.
36. Podagra.
37. Arthropuosis.
38. Hydarthrus.
39. Periostitis.

CLASS. III.—CUTANEI.*

Ord. I.—PAPULÆ.

40. Strophulus.
41. Lichen.
42. Prurigo.

Ord. II.—SQUAMÆ.

43. Lepra.
44. Psoriasis.
45. Pityriasis.
46. Icthyosis.

Ord. III.—EXANTHEMATA.

47. Rubeola.
48. Scarlatina.
49. Urticaria.
50. Roseola.
51. Purpura.
52. Erythema.

Ord. IV.—BULLÆ.

53. Erysipelas.
54. Pemphigus.
55. Pompholyx.

Ord. V.—PUSTULÆ.

56. Impetigo.
57. Ecthyma.
58. Variola.
59. Scabies.
60. Porrigo

Ord. VI.—VESICULÆ.

61. Herpes.
62. Varicella.
63. Vaccinia.
64. Miliaria.
65. Eczema.
66. Aphthæ.

Ord. VII.—TUBERCULA.

67. Phyma.
68. Verruca.
69. Molluscum.
70. Vitiligo.
71. Acne.
72. Lupus.
73. Elephantiasis.
74. Frambœsia.

Ord. VIII.—MACULÆ.

75. Ephelis.
76. Nævus.
77. Spilus.

CLASS. IV.—PROFLUVIA.

Ord. I.—HÆMORRHAGIÆ.

78. Epistaxis.
79. Hæmoptysis.
80. Hæmatemesis.
81. Hepatirrhœa.
82. Hæmaturia.
83. Hæmorrhois.
84. Menorrhagia.

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* In this class, Dr. Willan's lucid arrangement of cutaneous diseases is adopted.

ORD. II.—APOCENOSES.

85. Ephidrosis.
86. Epiphora.
87. Otirrhœa.
88. Ptyalismus.
89. Galactirrhœa.
90. Cholera.
91. Diarrhœa.
92. Dysenteria.
93. Diabetes.
94. Enuresis.
95. Leucorrhœa.
96. Gonorrhœa.

CLASS. V.—SUPPRESSIONES.

97. Icterus.
98. Obstipatio.
99. Ischuria.
100. Dysuria.
101. Dyspermatismus.
102. Amenorrhœa.
103. Dysmenorrhœa.
104. Suppressio mensium.
105. Dyslochia.
106. Agalactia.

CLASS. VI.—NEUROSES.

ORD. I.—PARALYSES.

107. Apoplexia.
108. Paralysis.
109. Amaurosis.
110. Dysopia.
111. Pseudoblepsis.
112. Strabismus.
113. Dysecœa.
114. Paracusis.
115. Anosmia.
116. Agheustia.
117. Aphonia.
118. Paraphonia.
119. Psellismus.
120. Dysphagia.
121. Anæsthesia.

ORD. II.—ADYNAMIÆ.

122. Asphyxia.
123. Syncope.
124. Dyspepsia.
125. Pyrosis.
126. Bulimia.
127. Satyriasis.
128. Nymphomania.
129. Anaphrodisia.

ORD. III.—SPASMI.

a. *In functionibus Animalibus.*

130. Tetanus.
131. Trismus.
132. Dolor faciei.
133. Tremor.
134. Convulsio.
135. Chorea.
136. Epilepsia.

b. *In functionibus Vitalibus.*

137. Palpitatio.
138. Angina Pectoris.
139. Asthma.

c. *In functionibus Naturalibus.*

140. Colica.
141. Nephralgia.
142. Hysteralgia.
143. Hysteria.
144. Hydrophobia.

ORD. IV.—VESANIÆ.

145. Amentia.
146. Melancholia.
147. Hypochondriasis.
148. Mania.
149. Oneirodynia.

CLASS. VII.—CACHEXIÆ.

Ord. I.—INTUMESCENTIÆ.

a. *Adiposæ.*
150. Polysarcia.
b. *Flatuosæ.*
151. Pneumatosis.
152. Tympanites.
153. Physometra.
c. *Aquosæ.*
154. Anasarca.
155. Hydrocephalus.
156. Hydrorachitis.
157. Hydrothorax.
158. Hydrops Pericardii.
159. Ascites.
160. Hydrops Ovarii.
161. Hydrometra.
162. Hydrocele.
163. Hydrops Articuli.
d. *Solidæ.*
164. Physconia.

Ord. II.—VITIA.

165. Atrophia.
166. Rachitis.
167. Mollities Ossium.
168. Lithiasis.
169. Scrophula.
170. Syphilis.
171. Sibbens.
172. Scorbutus.
173. Petechiæ sine febre.
174. Plica Polonica.

CLASS. VIII.—LOCALES.

Ord. I.—DYSÆSTHESIÆ.

175. Caligo.

Ord. II.—TUMORES.

176. Aneurisma.
177. Varix.
178. Ecchymoma.
179. Schirrus.
180. Carcinoma.
181. Bronchocele.
182. Sarcoma.
183. Fungus Hæmatodes.
184. Polypus.
185. Lupia.
186. Ganglion.
187. Exostosis.

Ord. III.—ECTOPIÆ.

188. Hernia.
189. Prolapsus.
190. Luxatio.

Ord. IV.—DIALYSES.

191. Vulnus.
192. Ulcus.

Ord. V.—DEFORMITATES.

REVIEW.

Art. I. *An* Appendix *to Thomas's Practice of Physic, by* Edward Miller, M. D. *Professor of the Practice of Physic in the University of New-York.* New-York. Collins and Perkins. 8vo. pp. 697. 1811.

(Continued from page 189.)

We hasten to conclude our Review of this extraordinary Appendix.

We have examined and disposed of Dr. Miller's ten cogent reasons why the yellow fever is not and cannot be a contagious disease: but our task is not yet finished; for, to these ten reasons the doctor has annexed various additional reasons, under separate heads, which must be examined and disposed of also. In our last we have already made some progress, in considering these, and an observance of order brings us now to his question, "*Can the yellow fever be imported and exported?*" The negative, he says, may be indubitably maintained for several reasons.

1. "*The non-contagiousness of the disease, if admitted, must entirely destroy the belief of its introduction from abroad,*" *&c.*

True. Nobody doubts that. But as, instead of being *admitted*, it happens to be the identical question in issue, it would strike us unaccountably strange to find an admission taken for granted, had we not so often before met with similar conduct on the part of Dr. Miller: it is the doctor's great reliance throughout this controversy; and entitles that gentleman at least to the character of a bold sophist.

2. "*If the alleged importation were possible, in any case, it might happen at any season of the year. In the active sea-ports of the United States, shipping from the West-Indies are very frequently arriving at all seasons; and it is known that the yellow fever may be found in those islands at any period of the year.*"

In this second reason, the doctor is, we fear, equally unfortunate as in his first. If the reader will turn back six pages, he will find the doctor answering himself; for he there says that, "*the extinction of the disease by cold weather is an insuperable objection to the doctrine of its propagation by contagion.*"* If so, if the winter extinguishes the disease, it seems hardly fair to expect us to prove that it propagates it also, or to give up the doctrine of importation. But, notwithstanding the doctor's assurance, we think it still remains for him to explain, how the extinction of the disease by the cold of winter proves it cannot be imported during the heat of summer. His argument is this; its importation is not possible in summer, (when the requisite degree of atmospheric heat prevails) because it never happens in winter, (when the requisite degree of atmospheric heat is absent.)

3. "*If the yellow fever could be introduced from abroad, it is impossible to explain its non-appearance in the United States for a long series of years, when no means were used to secure its exclusion. For more than fifty years preceding 1795, no importatoin of the disease into the city of New-York was suspected.*"

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* After all the stress laid by Dr. Miller on this argument, arising from "*the extinction of the disease by cold weather,*" is it not a little singular, to find this gentleman furnishing us with a case in the Medical Repository, vol. 9. p. 395, as communicated by Dr. V. Seaman, directly in the teeth of his own doctrine? This case happened in January 1806, when "the earth was locked up by frost and covered with snow." We mean not, however, to claim any advantage from this case, for, from Dr. Seaman's own description, it is very clear it was a case, not of yellow fever, but of ordinary typhus.

What? Is it indeed so, that for more than fifty years together, New-York has been entirely free from yellow fever, and yet its air be a "*local, stationary,*" and "*inexhaustible poison?*" that it be subject to constant "*exhalations from masses of filth and corruption, overspreading a large area of ground, forming a vast hot-bed of putrefaction,* INCESSANTLY *teeming with miasmata, and thereby, in despite of currents of air, loading with the seeds of disease every successive portion of the atmosphere that sweeps or stagnates over the pestilential surface,*" [engendering yellow fever?] Has this always been the case with the inhabitants of this ill-fated city, and yet have they, for more than fifty years together, never once been visited by yellow fever? Have they, then, for such a long period respired "currents of air loaded with the seeds of disease," and yet remained exempt from it? Has "every successive portion of atmosphere" they breathed, been thus contaminated, and yet have they not been aware of it for fifty years together? Has "a vast hot-bed of putrefaction, incessantly teeming with miasmata," been the soil they have, all this time, inhabited? Has a "pestilential surface" formed the ground under their feet for upwards of half a century? Has a "local, stationary, and inexhaustible poison" constituted the climate in which they have lived, moved, and had their being, and yet have generation passed away after generation, without this "terrible scourge of yellow fever" being ever known and felt by any mortal man among them, until up rose Dr. Edward Miller to inform them of their direful misfortune, and to assure them that they "LIVE IN THE LATITUDE OF PESTILENCE?"* But before Dr. Miller can make his deduction that the yellow fever's not being imported from the West-Indies during the period of fifty years, is evidence that it is not importable from thence, is it not, in fair argument, incumbent on him first to show, that during that period, and its great occasional mortality, it was not the common fever of the climate, but the pestilential yellow fever, that proved so fatal in the West-Indies? He mentions, indeed, several instances of great mortality among the English troops there, and he says that thousands of sick were landed in New-York; but let him produce any one medical writer of the day who denominates that sickness the yellow fever, or whose description of its pathognomonic symptoms shows it to have been such. If not the yellow fever, he is certainly entitled to no such inference as he has drawn. But, on the other hand, if, as he says, our climate, itself, is "*the latitude of pestilence;*" if this ruinous charge which he has brought against our city, be well founded, and there be any truth in the axiom that like causes produce like effects, let him account to us, if he can, by what magic or miracle it was, that the course of nature was arrested in its operations for more than fifty years; during part of which period, namely, the revolutionary war, the city of New-York was not once swept or in any way cleaned for seven years; the streets being the receptacles of carrion, spoilt vegetables, and thereby rendered one mass of filth? Or will Dr. Miller, in order to escape from one difficulty, plunge headlong into another, and say the mortal diseases of the West-Indies above spoken of must have been yellow fever, because all febrile diseases, whether bilious or remittent, by a happy "*arrondissement* in the doctrine of fevers," are the same? "The pestilential fevers of our cities differ only in *grade* from the bilious and remittent fevers of the country." This is, indeed, all that is left to be said; but this opens the way for a question of some importance to the doctor and his party, and his answer must be a decisive one. We ask you then, sir, whether, when you allow that the yellow fever did not appear in the sea-ports of the United States for more than fifty years, you mean to be understood as saying, that during this length of time neither remittent nor intermittent fever made their appearance? An answer in the affirmative would discover an ignorance of facts not to be suspected, and therefore we shall suppose you to answer, without hesitation, in the negative. If so, we only desire you to remember, that, in the very essay under consideration, you have assigned as one reason to prove the yellow fever is not contagious, that "*it has no specific character, no definite course or duration, and no appropriate, essential, or pathognomonic symptom.*" How then, we ask, can you, or any other man who thinks as you do, know the disease when you see it?

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* Vide Dr. Miller's first edition of the essay under consideration, as originally published in a letter addressed to Gov. Lewis, in 1805.

4. "*No importation of this disease, so as to become epidemic, was ever known in any part of Great-Britain, Ireland, or France.*"

This is admitted; and what then? The Doctor himself shall solve the difficulty. Let us once more turn back half a dozen pages and see what he says there. "Yellow fever does not prevail in countries where the heat is not sufficient to exhale the miasmata of foul grounds and other corrupting matters in the requisite quantity and virulence. We hear nothing of this disease in Great-Britain, Ireland, or France." "For want of the atmospheric heat and other circumstances requisite in the generation of yellow fever, they are happily exempt from its epidemic prevalence." All very well; but how this proves that the yellow fever cannot be brought from the West-Indies into the United States, where there is no 'want of atmospheric heat,' we are altogether at a loss to comprehend. This argument seems to be a-kin to that which infers that the yellow fever cannot be brought hither in the heat of summer because it cannot exist in the cold of winter, and that, because it cannot exist in the cold of winter, therefore it cannot be brought hither during the heat of summer: thus affording a pregnant example of what logicians call reasoning in a circle.

5. "*The appearance of the yellow fever in the interior parts of the country, inaccessible to foreign contagion, confirms the opinion of its domestic origin, while it entirely invalidates that of its importation.*"

Certainly: The appearance of the yellow fever in the interior of the country would completely invalidate the opinion of importation. Once produce a case, a single case of yellow fever, in any interior part of the country, inaccessible to importation, and unvisited by newly arrived passengers or sailors, and it shall be granted that there is an end to the question. We fearlessly venture, however, to assert, that no such case ever yet existed; certainly no such case is to be found in the volumes or hexades of the Medical Repository; and if not, we think we may, without apprehensions of contradiction, deny their existence; for it is utterly incredible, that such a case could exist, and yet elude the never ceasing and unlimited researches of the zealous partisans who conduct that learned work.

We take it to form a correct test by which to judge of the nature of a disease, to inquire into the treatment employed; similar remedies generally indicating similar diseases, and vice versa. The editors of the Repository, in proof of their assertion that the epidemic fevers of the interior parts of the country are no other than our yellow fevers of the city, have produced several letters from medical gentlemen and others, which they have published, and on which they entirely rely. Many of these letters, we admit, hesitate not to declare the same opinion, but on examination it will be found that while they pronounce one doctrine they prove another. They certainly confess that the remedies they have employed with success were "*emetics, followed by the bark and tonics.*" Now, every physician conversant with yellow fever, knows that this treatment of that disease would prove certain and immediate death. We find it also stated in a letter to Dr. Hosack, as found in "Barton's Medical and Physical Journal," that "the general duration of the lake fevers may be said to be about nine days," and that "when the disease proves fatal, it is, in general, on or about the twentieth day." Is it still seriously contended that this is the yellow fever of cities ?

But what shall we say to the following passage taken from the fourth volume of their work ?

> "The plague of Asia, like the yellow fever or pestilence of our own country, is a disease which delights in the devastation of populous cities. Perhaps *neither of these calamities has ever been known to originate, as an epidemic, in villages or country situations.*" Vol. 4. p. 403.

This is the language of Dr. Caldwell of Philadelphia, one of their most zealous and certainly most able partisans.

> 6. "*A comparison of the summer of the year* 1804, *with the corresponding season in* 1805, *the period of the last epidemic at New-York, will go far to show the dependence of the yellow fever on the condition of the atmosphere, and of course to overthrow the doctrine of importation. The summer of* 1804 *was mild and cool to a remarkable degree, on all the Atlantic coast of the United States, lying to the northward of the Carolinas.*" "*All the Atlantic cities north of the Carolinas, without exception, entirely escaped the epidemic that season.*"

We observe that the writer, in the latter sentence, makes use of the word *cities*, "all the Atlantic *cities*;" but, as in the fore part of the quotation, he sets out with a general proposition, embracing "*all the Atlantic coast*," when he afterwards says "all the Atlantic *cities* north of the Carolinas," we are authorized to understand the words as no more than a repetition of the former assertion a little varied, but equally extensive in meaning. To suppose any thing else, would be to suppose a miserable quibble, and would make the latter part of the sentence incongruous with the former. We understand Dr. Miller, then, as saying, that in the summer of 1804, "all the Atlantic coast of the United States, north of the Carolinas, without exception, escaped the disease." This escape he accounts for, by telling us, that it was owing to the remarkably mild and cool summer of that year; and this single circumstance, he says, goes far "*to show the dependence of the yellow fever on the condition of the atmosphere; and of course, to overthrow the doctrine of importation.*" How far the facts, when investigated and established, will go to show "the dependence of the yellow fever on the atmosphere," may not, perhaps, be so very clear; but that they go far, very far indeed, to show how little dependence can be placed on the correctness of Dr. Miller's statements, or the legitimacy of his conclusions, shall presently be made to appear.

When the impartial reader comes to peruse the following very particular account of the epidemic which raged at the Wallabout, in the summer of the very year 1804; a summer which we see so highly commended for its remarkable coolness and mildness, and during which, therefore, it is asserted, no yellow fever appeared on "*all the Atlantic coast* northward of the Carolinas;"

when, we repeat, he comes to read the account which follows, what will be his surprise, his astonishment? As this is one of the most leading cases ever known, and one of the most satisfactory that can be imagined, to prove the importation and contagiousness of the yellow fever, we shall take the liberty of giving the particulars and the evidence at full length, as furnished by the editor of the New-York Evening Post at that time. We begin with the ensuing article, taken from that paper of September 11, 1804.

"*Epidemic at the Wallabout.*

"Being of the number of those who view the question, whether the yellow fever is imported into the United States, as one of the most interesting that can occupy the attention of this community, deeply involving the lives and fortunes of its members, it would be affectation to apologize for devoting a few columns to its investigation. It will be allowed, that if a single instance can be produced and authenticated, in which the disease has been introduced from abroad by means of vessels, it will be decisive of the question: that instance I now offer to produce and authenticate.

"In June last several persons living at the Wallabout were attacked with the yellow fever; from these it was communicated to others, in all seventeen, of whom eight died; after which it ceased, in consequence of the removal of the inhabitants. For the information of the distant reader it is proper to observe, that the Wallabout is a little hamlet situate on the eastern shore of the East river, which divides the city of New-York from Long-Island, and consists of eight dwelling houses and two or three out-houses, the distance between the two extreme houses being about one third of a mile. The situation, soil, and circumstances of the place will more particularly appear from the affidavits that are to follow, accompanied by the letter of John Jackson, Esq. who is the proprietor of the soil. The following is a correct statement, obtained from the inhabitants at the Wallabout, of the manner in which the disease showed itself, and the order of the cases.

Isaac W. Brown, Edward Livingston, Samuel White, James Castles, and Mrs. Little, (since dead,) on the 20th of June: Mrs. Little died on the 24th or 25th, the rest recovered.

Philip Dring sickened the 21st, died the 23d.

Mrs. Sherlock sickened the 22d, died the 28th.

Jane Johnson sickened the 23d, died the 27th.

Mrs. Dring sickened the 30th, recovered.

Sally Wakeman sickened the 29th or 30th, died July 3d.

William Arbutton sickened the 28th, died at the Marine Hospital July 3d.

Benjamin Rhodes sickened the 29th, recovered.

George Little, Mrs. Gentridge, (who laid out Mrs. Little) and Patty Helme, sickened the 30th, all recovered.

—— Helme sickened July 1st, recovered.

Patrick Proffer was a labourer who took the fever at the Wallabout, day unknown, came over to New-York, and after laying sick some days, recovered; after which his case was made known in the Medical Repository.

After five days from the removal of the brig La Ruse, no new case of fever appeared.

The above will furnish a sufficient description of the patients for the present. The letter and affidavits will supply all the reader can want to know further.

"On the evening of the 28th of June, I met Dr. Hosack in Wall-street, who informed me that the yellow fever had unquestionably appeared at the Wallabout, and that he had that day seen a man in this city, at No. 40 Pearl-street, labouring under clearly marked symptoms of the disease, but which the Resident Physician (Dr. Miller) had pronounced to be only an ordinary cold; that this man, although his habitation was here, was a labourer at the Wallabout, and had slept in the very house out of which a woman had been buried, having died of the fever; desiring me to make a memorandum of the conversation, which I did. The next morning I saw Dr. Hamersley, Dr. Stringham, and Dr. Gamage, who informed me they were going over to the Wallabout for the sole purpose of examining into the facts, and making a statement of them.

" A statement of facts was accordingly made by them from minutes taken on the spot; which they immediately sent to his honour the Mayor. The statement of these gentlemen it is not necessary to repeat, because one more in detail is now to be presented; it was substantially correct; in one or two particulars incorrect, but on the whole as near the truth as could be expected for the short time they were at the place collecting it; and in my opinion the public are highly indebted to them for the duty they voluntarily undertook, and which, had it only been persisted in, with spirit and firmness, to the end, would have given them very extensive claims on our gratitude. For, had they not have gone to the Wallabout at the time they did, I very much suspect we should not have been more fortunate in coming at the truth in this, than in former instances.

" As was foreseen, the Health Officer appeared in the very next Citizen in a full length vindication of his official conduct, and controverting the statement of the three physicians throughout. This vindication was published in this paper of July, but as it is now to be subjected to an examination, it may be convenient to bring it to the readers recollection, by a short summary of its contents.

" After complaining of 'the misrepresentations of facts, distortion of truths, and malignant reflections,' which had been made on the occasion; and after a pertinent and proper approbation of the quarantine laws, Dr. Rodgers proceeds to state the situations of three vessels which lay at the Wallabout; to wit, the schooner Union, schooner Greyhound, and the brig La Ruse. With the first I have nothing to do, and therefore dismiss her at once.

" The Greyhound, he says, was from Cape-Francois, 'her cargo, coffee, in a very sound condition,' 'she was also cleansed, her bilge-water completely pumped out, and the water from the pump completely clear and free from smell.'

'The brig La Ruse arrived June 4th, from Guadaloupe, in stone ballast, and light. Her crew consisted of six in perfect health; four passengers, all well. She lost one man on the homeward bound passage, (the cook) whose complaint was declared by the physician at his arrival, to have been inflammatory, and not to have partaken of the nature of yellow fever at all.' 'The brig at this time was clean, she was free between decks, nothing in her hold but stone ballast, and this free from smell, and apparently very clean; she had never been sickly, or in such a situation as to have given mistrust.' 'Captain Chammings declares the hatches were closed the first six days after her arrival at the Wallabout, that he was the first person that opened them, and went down directly into the hold, that he did not perceive *any disagreeable smell at all*, nor was *in the least* incommoded.' 'The ballast on board the La Ruse was *dry* clean stones,' &c.

'Dr. Bailey went up by my direction on the 25th ult. to know the state of the vessels in the Wallabout; he found them in such a situation as to warrant him in saying that no evil could *possibly* have arisen from them.' 'La Ruse hauled first to the navy-yard, where she lay till the 23d of June, when she moved to the wharf, opposite to the house where a woman sickened on the 20th and died on the 24th or 25th. She lay there without discharging her ballast or even touching it till the 25th.' 'Upon the whole, I am confident no evil has arisen from La Ruse at any one time.' 'I can and do declare that no vessel has passed to the city of New-York from any place where malignant fever prevailed at the time of her departure, since I have been health officer.' 'All the ports from which the vessels now in the Wallabout, or which have been there since the first of June, sailed, were at the time of their departure, in great health.'—'Edward Livingston and another man from the Wallabout, labourers at the saw-pits, but not on board any vessel there, have been admitted into this hospital with malignant fever, and are recovering; neither of them had ever been on board the La Ruse.' He then refers the Mayor, to whom the letter is addressed, to Dr. Miller, the resident physician, as being a person better able to give an account of the misfortune at the Wallabout than himself; and concludes with some reflections on the conduct of the three physicians, accusing them of having been either purposely vague, and therefore disingenuous and uncandid, or with being guilty of reprehensible neglect in omitting to state material circumstances.

"Such are the leading contents of the letter of the health officer; and, if it shall appear that he is so very unfortunate as to have been mistaken in all the leading particulars that he has thus stated, the detection will not, we hope, be chargeable to a wish on my part to distort the truth, nor to 'a misrepresentation of facts,' nor the 'malignant reflections' of the three physicians.

"As to the Resident Physician, to whom he refers as being more competent to furnish an account of the affair than himself, that gentleman has given his account in print. It has appeared in several of our morning papers and shall be republished in this to-morrow. It is hereafter to be shown that the Resident Physician has been equally unfortunate in his facts as the Health Officer."

In confirmation of the above statement, the following appeared the next day, taken from the Medical Repository for July.

"*Malignant disease at the Wallabout.*

"About the twentieth of June cases of the malignant fever suddenly appeared at the Wallabout, on Long-Island, at Mr. Jackson's ship yard, near the navy yard of the United States: where a large number of ship carpenters and other labourers were collected, and where ship building is carried on to a considerable extent. The East river separates this place from the city of New-York.

"Of the persons attacked with this disease, eight are said to have died; two of these, however, are believed, by many, to have been affected by other disorders. Two labourers were seized with it soon after quitting the ship-yard and making their way into this city; one of them recovered, and the other died at the Marine Hospital, where he had been sent as soon as symptoms of decided malignity came on.

"Difference of opinion, as usual, arose concerning the origin of this disease; some ascribe it to imported contagion, or the foul condition of certain vessels recently arrived; others to the accumulated filth and crowded state of the dwelling houses at the ship-yard.

"The vessels charged with the importation of the contagion were the brig La Ruse and the schooner Greyhound; the former from Guadaloupe, the latter from Cape-Francois. It appears, from incontestible evidence laid before the public by the health officer of this port, that the vessels in question came from ports which were in a very healthy state; that no malignant disease had occurred on their passage; that on their arrival here they were completely cleansed by ventilation, washing, white-washing, &c.: that the clothing, bedding, &c. of the crews had been carefully ventilated and washed; and that particularly the lime-stone ballast of La Ruse, which afterwards became the object of some ridiculous suspicions, had been perfectly washed as it lay in the hold of the brig, while she rode quarantine, by repeated taking in and discharging water in great quantities from along side.

"Notwithstanding this remarkable, and, as it may possibly be thought by some, excessive scrupulousness in the health officer, many reports of the uncleanness in these vessels were industriously circulated. It was asserted, in particular, that the disease appeared after the discharge of the ballast from the brig La Ruse, which was just mentioned; but it is ascertained that three or four of the worst cases commenced before this ballast was moved. It was likewise asserted, that the crew of La Ruse went ashore to the grocery store of Mr. Little, in whose house one of the first cases occurred, to purchase such things as they wanted; this, however, is positively contradicted by the testimony of Mr. Little himself, who declares (and whose certificate has been published) that no seaman or other hands from the brig had come to his house, or held any communication with his family, while she lay at the Wallabout. It was further asserted that the brig in question lay close to the house of Mr. Helme, in which one of the most malignant cases commenced on the 20th of June: whereas there is the best evidence that this vessel lay at the navy yard of the United States, a distanse of more than *one hundred* and *fifty* yards from the spot referred to, until the 23d of the month, when she moved tothe wharf near to Mr. Helme's house, a day or two *after* some of the malignant cases had commenced. It would occupy too much of our time to mention and refute several other glaring misstatements concerning those vessels, which were collected and laid before the public with all the confidence of the most authentic facts.

"It does not appear that a single person of those attacked with this malignant fever had been on board either of the vessels charged with the importation of it, or held any communication with them, or any thing belonging to them. On the contrary, many persons, generally from five or six to seventeen or eighteen in number, were on board of the brig La Ruse, for the purpose of repairing her, from the time of her arrival till her departure from the Wallabout: not one of whom suffered any sickness. On board of the Greyhound, whose bilge-water was said to have been offensive at a particular time, and which on that account, became an object of suspicion, there lived a family, consisting of a man, his wife, and several children, who all enjoyed perfect health while the sickness was prevailing on shore. To believe that these vessels could emit noxious effluvia to such a distance on shore, while, at the same time, so many persons on board of them remained in the best health, is to admit the incredible supposition that such effluvia are less pernicious in their concentrated state, near their source, than being greatly diffused and diluted in the atmosphere. Besides, Mr. Middleton, with his family, lived nearer to the wharf were the suspected vessels lay than either Helme or Little; yet they all continued in perfect health, which must have been owing to their not being at all crowded, a circumstance very material, as will be presently seen, in the condition of the other families. It deserves also to be mentioned, that a large proportion of all the victims to this disease, and some of the earliest, were women, whose occupations did not lead them to the wharves, who were employed within doors, and who had not been concerned in washing seamen's clothes, or in any intercourse with them, which could account for the communication of the disease.

" But while the most decisive facts show that the disease in question could not have originated from either of the suspected vessels, or from any foreign source whatever, the local circumstances of the ship-yard itself, together with the condition of the inhabitants, will be found sufficient to satisfy any reasonable inquirer that the mischief was generated there.

" A very high and steep bank, beginning a few feet from the houses inhabited by the sick, effectually deprive persons residing there of the benefit of all refreshing breezes from the south and south-west. The principal houses are so situated, with their rears to the eastward on the line of the navy-yard, that, for want of doors and windows on that side, they almost entirely exclude the north-east, east, and south-east winds. Two ships on the stocks, surrounded by their scaffolding,. together with large quantities of timber deposited in different situations, prevented, in a great degree, the approach of currents of air from the west and north-west. From these circumstances it results, that the only wind which had free access to the ship-yard, or could ventilate it with any effect, was a north wind, which seldom blows during the hot season. The effect of these circumstances was strongly felt and acknowledged by the inhabitants of the place, who described, in striking terms, the unfavourableness to a free circulation of air, and their sufferings in consequence of the very hot and stagnant air they were obliged to breathe.

" The boarding-houses allotted to the numerous workmen at this ship-yard were excessively crowded. The number of lodgers stowed in single rooms was, in several instances, so large, that great danger must have resulted from this source, in a situation ever so favourable on other accounts. In one instance, it is asserted that nine labouring men, with their bedding, &c. were obliged to pass their nights in a room about ten or twelve feet square, with only one window or door. In several other cases which have been distinctly related, the degree of crowding was nearly as great. There was but one instance of a family at this ship-yard enjoying the comfort of apartments sufficiently spacious and commodious in proportion to their number; and these all preserved good health, while the neighbours around them were sickening and dying.

" The quantity of vegetable and animal filth overspreading the ground, and lying about the boarding houses, taken in connection with the other circumstances of the place, was sufficient to generate great mischief. No plan of properly cleansing the yard seems ever to have been adopted; of course this filth has been progressively accumulating, and becoming more dangerous ever since the establishment at this place was first undertaken.

" The number of persons at this place was sufficient to carry on the work of building two large ships, and of occasionally repairing others. Yet these workmen did not possess the convenience of a privy, the want of which must have added exceedingly to the other sources of the accumulation of filth. When all these facts are considered in connexion with the local circumstances of the spot, which rendered ordinary ventilation impossible, it will not appear strange that a malignant disease should have been generated at this place. There would be no reason to resort to the vessels for the source of mischief in this case, even if the proofs of their clean and inoffensive state had not been so clearly established.

"After the disease had continued to prevail for some time, the inhabitants abandoned all the houses where sickness had appeared, dispersed themselves in the adjacent neighbourhood, and caused the forsaken houses to be thoroughly ventilated and cleansed. In consequence of this the disease was suddenly arrested. And it deserves to be mentioned, that, on this, as on all similar occasions, nothing like contagion was communicated from the sick who were distributed throughout the neighbourhood of the Wallabout, made their escape into New-York, or were sent to the Marine Hospital; although in all these different situations, they were surrounded by nurses and attendants in the usual manner.

"It is to be hoped, when all the circumstances of this affair are duly considered, it may have some effect hereafter in preventing the public credulity from being again so much abused, as it was in this case, by the fabrication of reports *grossly unfounded*, and which could answer no other purpose than to prop a declining doctrine, and to injure the reputation and commerce of New-York."

"This is certainly taking very lofty ground, and adopting language towards gentlemen of the same profession, not altogether civil or proper. In my opinion they would have been justified in answering instantly in the same style; and, supported as they were, by having taken the right side of so plain a case, it was in their power to have replied in terms of tenfold severity. They, however, notwithstanding they feel indignant at such an attack, have chosen the moderate course; they have preferred to observe, themselves, a dignified silence towards their illiberal opponents, and to leave it to me to sum up the cause before the court. I shall do it to the best of my ability, nothing doubting but the public verdict will be on the side of truth and justice.

"I have pledged myself, to produce to this community such a body of testimony as to satisfy every rational man of the righteousness of the cause, which, from pure and disinterested motives, as I trust, I have espoused. This testimony shall now be submitted without further introduction. In the next paper but one, I shall endeavour to sum up the case.

DEPOSITIONS.

(No. I.)

King's County, ss.

Simeon Helme, of lawful age, being duly sworn, deposeth and saith, that he has lived with his family at the Wallabout since March last, as master builder of the large ship now on the stocks at Jackson's-wharf; that he well remembers when the brig La Ruse came up from the quarantine ground, and hauled along side the wharf at the navy yard, where she discharged part of her ballast *before* the sickness broke out; that some days after discharging the first load of ballast, Mr. Philip Dring, son-in-law to the deponent, was taken with the yellow fever; he was taken ill on the 21st, and died on the 25th. And the deponent further saith, that the said Philip Dring lived in the same family with himself, and slept in an adjoining room with his wife and child, but at the time he was taken sick, his wife's two sisters also slept in the same room; that this was a small bed-room, but that the door of the room adjoining, which was a large room of eighteen by sixteen feet square, was always kept open. And the deponent further saith, that this large room had a window that opened into the navy-yard, at the wharf of which the brig La Ruse lay when his son-in-law was taken sick, and within *thirty* yards of this window by admeasurement. And the deponent further saith, that the evening before Philip Dring was taken he told this deponent that he never in his life smelt any thing so very bad as the smell from the vessels; meaning the brig La Ruse and the schooner Greyhound, which lay at a little distance from the wharf, but which had been pumping out their bilge-water, and that he heard Mrs. Little make a similar observation. And the deponent further saith, that Dring worked every day on the stern of a ship on the stocks, within about twenty-five yards of where the La Ruse lay at the navy-yard, and used to go repeatedly to a blacksmiths shop to get iron work, within eight or at most ten yards of the brig. And the deponent further saith, that as soon as Mr. Dring was taken sick he was removed into the large airy room adjoining the one where he used to sleep, where he remained till he died; but in a few days after he died, his wife was taken with the fever, and then the deponent and his family all moved off to an open and airy situation about a quarter of a mile to the south or south-east, but nevertheless on the 30th of the month, one of the deponent's daughters was taken down, and, on the first of July, the other, but all of whom recovered. And further saith not.

SIMEON HELME.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P

(No. II.)

King's County, ss.

Simeon Helme, jun. of lawful age, being duly sworn, saith, that he, the deponent, is by occupation a wharfinger, and has resided as such at the Wallabout, Long-Island, since before the appearance of the yellow fever at that place in June last, but has slept at Brooklyn; that the deponent remembers when the brig La Ruse first came up from the quarantine ground, and hauled along side the wharf at the navy-yard, which was, according to the best of his recollection, about the 12th of June; that a few days *afterwards*, and before the sickness appeared, this brig began to unload her ballast at the navy-yard; that he heard some of the persons employed in unloading this ballast say, that it was so very offensive, they could not throw out but a few stones at a time, without being obliged to put their heads up the hatchway to obtain a breath of fresh air: and the deponent saith, that after unloading one sloop load, for some cause she desisted, and on the 23d she moved about her length westward to Jackson's wharf, which is only separated from the navy-yard by a fence; and that after laying three days at this wharf, during which time she unloaded most of her ballast, Dr. Bailey came up from the quarantine ground and ordered her down; but before she went off the deponent saw one or more barrels of tainted beef thrown overboard by Dr. Bailey's orders. And the deponent further saith, that he frequently saw Mrs. Little, the woman who was first taken ill and died, down upon the wharf near where the brig La Ruse lay, and near the brig, looking for her child, which used to play about the wharf.

The deponent further saith, that when the La Ruse lay at the navy-yard, the schooner Greyhound lay at about one hundred or one hundred and fifty yards distant from the wharf, and while there, on the morning of the 18th or 19th of June, as the deponent was at work in the ship-yard, he perceived a most shocking smell to come from the water, the wind then being about north, and looking up he observed the schooner was pumping out her bilge water, which was the cause of the smell. At this time Philip Dring and Isaac Brown both complained to the deponent very much of this offensive smell, and the latter was obliged to leave his work in consequence, and go and get a drink of brandy and water; in a day or two afterwards they were both taken with the fever. And the deponent further saith, that he views the Wallabout to be a healthy situation, well accommodated as to a free circulation of air, and the ship-yard as clean as ship-yards usually are any where, nor is there any animal or vegetable filth lying about or near it, so as to cause any kind of inconvenience to any person in the place. And further saith not.

SIMEON HELME, Jun.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(No. III.)

King's County, ss.

Isaac M. Brown being duly sworn, deposes and saith, that being at work on the stern of a new ship on the stocks, which was then only in frame, with but three streaks of plank on her bottom, the deponent on either Saturday the 16th, or Monday the 18th of June, was addressed by Philip Dring, who was at work on the stern of an adjoining ship, and asked what was that nauseous and disagreeable smell, to which the deponent said it was the bilge-water then pumping out of the schooner Greyhound, which lay, as near as the deponent can judge, about one hundred and fifty yards to the windward, or that it came from the brig La Ruse, which was also then pumping out her bilge-water, and which lay within about thirty yards of where the deponent was at work. The effect was so disagreeable that the deponent got off the stage and went and got a glass of brandy and water. On the Wednesday following, to wit, on the 20th, the deponent found himself attacked with a pain in the head, back and limbs, on which he told Mr. Middletons that he hoped for the best, but he felt just as he formerly did when he had the yellow fever; soon after he was attacked with it, and was sick about three weeks, when he recovered. And the deponent further saith, that he boarded in the house of Mr. Middletons, adjoining, north-east, the house of Mr. Helme, and under the same roof; that he slept in a room alone, excepting for one or two nights, when another person slept in the room, but in a different bed; that he never experienced any inconvenience from too many persons being crowded into one bed-room, nor did he ever hear of any such instance at the yard; nor has the deponent ever heard of any complaint by any person at the yard, of a want of circulation of air, nor has he ever perceived that the yard was less clean or the ground about it, than other ship-yards in New-York. And the deponent further saith, that he heard Mrs. Little complain of the bad smell of the bilge-water, and that she asked him what it was that smelt so bad at the time he went up and got the brandy and water? And further saith not.

ISAAC M. BROWN.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(No. IV.)

King's County, ss.

Samuel Middletons being duly sworn, testifies and says, that he has, for some time past, worked as ship-carpenter at Jackson's ship-yard, and lives there with his family; that he boards some of the workmen, and occupies a house east of where the two ships are now building, within about ten yards of one of them; that his house is under the same roof with that occupied by Simeon Helme, but north of it; that he has two windows, one below and one above, opening eastward on the line of the navy-yard, but the lower window has been cut since the fever; and that he occupied this house before and during the time of the late yellow fever at the Wallabout. The deponent further saith, that he well remembers that on the 18th of June, he was in the ship-yard in the morning, when the Greyhound was pumping out her bilge-water, which smelt excessively nauseous; he heard both Dring and Brown complain of it; the former of whom was taken with the yellow fever on the 21st, and the latter, who boarded in the deponent's house, was taken on the 20th; and he also heard Mrs. Little complain of the same thing, who was also taken on the 20th, and died on the 24th or 25th.

SAMUEL MIDDLETONS.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(No. V.)

King's County, ss.

Edward Livingston, of lawful age, being duly sworn, testifies and saith, that in June last, he was engaged as sawyer at Jackson's ship-yard; that on the 18th or 19th of June, as he was at work one morning in the saw-pit, he was struck with a most dreadful smell, which he perceived to come from the bilge-water then pumping out of the Greyhound, lying about one hundred or one hundred and fifty yards from the wharf. And the deponent further saith, that on Tuesday evening the 19th of said June, as nearly as he can recollect, he went on board the brig La Ruse, then lying at the wharf, to get her boat to bring up a log that lay in the stream, and on the 20th he was taken down, in the evening, with the yellow fever; in consequence of which he was sent to the Marine Hospital, after being sick a week, and where, after about five weeks, he recovered. And the deponent further saith, that he never experienced any inconvenience from dirt or filth lying about the yard or the houses, nor saw more than is usual at ship-yards; nor had he ever suffered for want of circulation of air or excessive heat, while working there. And the deponent saith, that at the time he was taken sick he boarded at Mr. Little's, at the head of the ship-yard, at which time no other workman boarded in the house with the deponent but William Arbutton, who slept in the same bed with him, and was afterwards taken sick with the fever, as he is informed, and died at the Hospital; that no other persons, at that time, lived at Mr. Little's house besides Mr. Little and his wife, Jane Johnson, who was taken sick two days after the deponent, and died, as the deponent is informed, on the 27th, and two small children; but no person slept in the room with the deponent, excepting the said Arbutton; further the deponent saith not.

EDWARD LIVINGSTON.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(No. VI.)

King's County, ss.

Benjamin Rhodes, of lawful age, being duly sworn, deposeth and saith, that he now lives and has lived for seven years past at the place called the Wallabout, on Long-Island, and that during the said time he has been employed at the said place as a master builder, and that till the appearance of the yellow fever in June last, he has ever found the place very healthy; that it is so situated as always to have a cool and pleasant air whenever there is wind stirring, from whatever quarter it blows; this is more particularly owing to its being surrounded on all sides but one by water, and on that side, which is the south side, there is a break in the hill, so that even when the wind is south there is always a draught draws down through the ship-yards. And the deponent saith, that for seven years past the number of workmen employed at the navy-yard adjoining Jackson's yard where the ships are now building, has been greater than the present year, and in some years five to one. And the deponent further saith, that there is not, nor was at the time of the appearance of the fever, or at any other time this summer, any animal or vegetable filth overspreading the ground at the ship-yard or round the boarding houses near it, but that it is, and has been as clean as ship-yards usually are in New-York. And the deponent further saith, that he has never heard any inhabitants at the Wallabout, nor any of the workmen employed there, complain of the want of a free circulation of air, or say that they thought the place an unfavourable situation, but on the contrary he has frequently heard the workmen speak of it as being far preferable on that account, to the other side of the river in New-York. And the deponent further saith, that he lives about an eighth of a mile west of Mr. Helme and Mr. Middletons, where the first cases happened, but that he visited the sick every day till the 29th of June, when he was attacked with the fever himself, but after several days illness recovered. And the deponent further saith, that he keeps a boarding house for workmen, but has never been obliged to put more persons into one bed-room than could be well accommodated, and on examination the deponent is fully convinced that in no instance any of the boarders have been before the sickness or since, crowded at the houses at Jackson's-yard.

BENJAMIN RHODES.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(No. VII.)

King's County, ss.

Asa Randel, of lawful age, being duly sworn, saith, that he has been employed as master ship-joiner at Jackson's yard, at the Wallabout, since the first of May last, and that he has formerly been employed at the adjoining navy-yard: that during the time he has been so employed the present season, the ground of the ship-yard, and the grounds about the houses, have been, and are, as clean as is customary, as clean as other ship-yards are, and as the former ship-yard used to be; that all the time the deponent has been so occupied before and during the late fever, and since, he has never observed any thing of so filthy a nature as to cause the least inconvenience to the persons residing there; nor has he ever heard any complaint of the want of a free circulation of air, but, on the contrary, when there has been any air stirring any where, the Wallabout has its full proportion. The deponent further saith, that he never has heard any complaint by any of the workmen of being crowded in the boarding houses by night or day, nor does he believe, from inquiry, any cause of such complaint ever existed.

And the deponent further saith, that he heard captain Chammings say, that when he opened the hatches, and went down the hold of the brig La Ruse, there was a very disagreeable smell, but that he conceived it to be no more than what had been caused by the confined air of the hold, and therefore did not mind it. And the deponent further saith, that he heard Benjamin Brown, the boatman employed in taking out the ballast of the brig La Ruse, say, that the ballast, when he first began to take it out, smelt very bad, but he thought it was owing to the closeness of the hatches, and was not at all afraid. And the deponent saith, that by observation, and the best inquiries he can make, not more than seven or eight hands were ever employed on board the La Ruse to caulk her deck; and the deponent further saith, that he was informed by captain Chammings, that this brig was an old captured vessel, and was bought in the West-Indies by said Chammings, and sent to New-York under the command of captain Story.

ASA RANDEL.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(VIII.)

King's County, ss.

Jonathan S. Wakeman, being duly sworn, saith, that he resided at the Wallabout for some years past, during which time he has done the work for the ship-yard, as the master blacksmith, and in that time a greater number of workmen have generally been employed than in the present year; in 1799, the deponent boarded nineteen hands in his house, and the present year he has boarded, before the fever, two, and since that time, five; the deponent further saith, that he was at work with Philip Dring, on the stern of the new ship, when the smell of the bilge water was so nauseous and offensive to them all, and when Dring spoke to the deponent and asked him what was the cause of such a dreadful smell? The deponent looked toward the schooner Greyhound, and saw her pumping out her bilge-water, and he saw the water come out so very black as to turn the water black at her side. And the deponent further saith, that the ship-yard, with which he has been acquainted for seven years, has always been in a clean and healthy state, and as clean the present year, since it was removed to Jackson's wharf, both before and at the time of the fever, as it ever was, when it was kept at the navy-yard, on the other side of the fence. The deponent further saith, that whenever any wind is stirring, from whatever quarter it blows, the yard is as well supplied with fresh and cool breezes as any place whatever; and that when the wind blows from the south-east any way hard he is obliged to shut his shop-window; nor has he ever heard of any complaint of a want of circulation of air by any of the people. And the deponent further saith, that his sister, Sally Wakeman, who died with the yellow fever, boarded at his house, and before she was taken ill she frequently visited Messrs. Dring's, Helme's and Little's, and was greater part of her time with the sick.

JONATHAN S. WAKEMAN.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(No. IX.)

King's County, ss.

Thomas Wright, of lawful age, being duly sworn, saith, that he has for some time worked at Jackson's ship-yard, at the Wallabout, as a ship-joiner, and was there on the 26th of June last, at which time he saw Dr. Bailey at the yard, and he heard him order two barrels, one full, the other part full, of spoilt beef, to be thrown overboard from on board the brig La Ruse, which then lay at the wharf. And the deponent further saith, that he never observed that the ship-yard, or any of the ground about it, was ever in a more dirty or filthy state than is customary at other ship-yards, and such as is caused by the quantity of dry chips that lie loose about the vessels; nor did he ever hear any person complain, or perceive himself, that the ship-yard at the Wallabout was so situated as not to have a free circulation of air

THOMAS WRIGHT.

Sworn before me, September 7th, 1804.

WILLIAM FURMAN, J. P.

(No. X.)

King's County, ss.

William Sherlock deposeth and saith, that he has lived three years at the Wallabout; said place was as healthy as any place, during the time, as he ever knew, until the shipping came there in June last. On the 20th June the yellow fever made its appearance; on the 22d his wife was violently attacked, and on the 28th died with the black vomit. She frequently went to the dock of the navy-yard, where the brig La Ruse lay, to pick up chips; the rooms where his wife and three children and self resided, were large, on the second story, had the benefit of a free and pure air from all quarters, being nearly surrounded with running salt water. A few days after the families moved away from Jackson's yard, the fever disappeared; the place has been healthy since, although there has been nearly twice the number of men at work at Jackson's yard as there were before the sickness, all whom have been healthy; and further saith not.

WILLIAM SHERLOCK.

Sworn before me, September 7th, 1805.

WILLIAM FURMAN, J. P.

" Before I go farther I owe it to truth and candour to correct an error, which I have just discovered in the preceding number.

" It has been said that the crew of La Ruse abandoned her at the quarantine ground, and that she was brought to the Wallabout, by persons hired from Long-Island. This is a mistake, she was brought up by her own crew.

" Previous to proceeding with the depositions it may not be amiss to state, that captain Story, who commanded La

Ruse, has very politely given me all the information I asked for, and even permitted me to examine his log-book and to transcribe what I chose. The history of the brig in relation to this affair is as follows:

" The brig La Ruse was taken as a merchant vessel, returning from Demerara to Guernsey, by a French privateer, and carried into Point-Petre,* where she was purchased by Captain Chammings about ten days after her arrival, and in about three weeks more was fitted out for this port; the whole time she lay at Point-Petre was, as I am informed, about six weeks. Before captain Story sailed he understood some cases of *fever* had occurred at the place, but not that the disease was *prevalent* so that it could be called a *sickly port*, and thus be brought within our Act. On the 15th of May she set sail. The following is an extract from the log-book:

' 23d. Cook complained. 24th. Jack (a boy about nineteen years of age) and cook complaining. 25th. Cook worse. 26th. half past one, Larch Norgrave [the cook] departed this life, after a short illness, and was committed to the deep. Jack much better.'

" *The cook's bedding and all his clothes were thrown overboard with him.* The brig arrived at the quarantine June 5th, and on the 8th the captain left her, and she was brought up to the Wallabout by the crew."

" The above account has been read by me, and the circumstances are correctly stated. WM. W. STORY."

September 13, 1804.

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* We understand that our board of health perceiving that persons in many vessels from Point-Petre were affected with yellow fever, have, during the last two months, subjected all shipping from thence to a rigid quarantine, and we now deem it our duty, for the sake of the health of the other ports of the United States, to declare from *authority* that the Board yesterday received official information of the prevalence of the yellow fever both on shore and in the port of Point-Petre.—*Aurora.*

" I now proceed with the remainder of the testimony.

(No. XI.)

King's County, ss.

James Cassils, of lawful age, being duly sworn, deposeth and saith, that he was one of the labourers who worked at the Wallabout as ship-carpenter, and was in the yard on the 18th of June, when he perceived a very disagreeable smell to come from the vessels, and looking towards the schooner Greyhound, saw she was pumping out her bilge-water, which seemed to be the cause of it.

And the deponent further saith, that on the 20th of June he was taken with the yellow fever; and on the 27th of June, the deponent was sent to the Marine Hospital, where, after some days illness, he recovered; and further saith not.

JAMES CASSILS.

Sworn before me, September 14, 1804.

WILLIAM FURMAN, J. P.

(No. XII.)

King's County, ss.

Samuel White, of lawful age, being duly sworn, deposeth and saith, that he was one of the ship-carpenters who worked at the Wallabout, and was in the yard on the 18th of June, when he perceived a very disagreeable smell to come from the vessels, and looking towards the schooner Greyhound, saw she was pumping out her bilge-water, which seemed to be the cause of it; and the deponent further saith, that on the 20th of June he was taken with the yellow fever, and recovered in about twelve days; and further saith not.

SAMUEL WHITE.

Sworn before me, September 7, 1804.

WILLIAM FURMAN, J. P.

LETTERS.

(No. XIII.)

New-York, September 12, 1804.

To Mr. Simeon Helme.—Sir,

I perceive that Dr. Walter, in his letter to the health officer, has, among other things, undertaken to state the dimensions of your house, and the number of persons in your family. Suspecting from what I have seen and been informed of, that the Doctor is wide of the truth, I enclose you that part of his letter containing the above, and should I be right in my conjecture as to its inaccuracy, I will thank you to inform me of it, and to send me the exact dimensions of your rooms, and number of persons living with you at the time the fever appeared. I will not trouble you to put it in the form of an affidavit; letter will answer. Yours,

WILLIAM COLEMAN.

(No. XIV.)

Wallabout, September 12, 1804.

To Mr. Coleman.—Sir,

The following is the information I suppose you want: The house I now occupy is two stories high, containing two large rooms sixteen by eighteen feet, one in each story, and two small rooms, ten by twelve; besides this, there is a kitchen in a separate building, fourteen by fourteen. At the time of the fever, there slept in the lower part of the house, myself and wife, Mr. Dring and wife and his four children, and my two daughters. In the upper rooms slept Mr. Leeds and wife and two children, in one room, and two men, boarders, in the other room; and four boarders, workmen, slept in the kitchen, making in the whole, twenty persons which then composed the family. Yours,

SIMEON HELME.

(No. XV.)

September 12, 1804.

To Mr. Coleman.—Sir,

As the most satisfactory answer to your letter I can give, respecting the Wallabout, I here transcribe, by permission of his honour the Mayor, that passage in my report, as secretary of the Health Committee, which relates to your questions.

" My first object was to examine the state of the houses, with respect to the cleanliness, and I had the satisfaction of perceiving that the inhabitants had not been negligent in regard to this important article. The rooms which had been occupied by the sick, had been thoroughly cleansed, and the houses whitewashed; nor did I see any thing offensive in the vicinity."

To the above I may add, that from the view I had of the situation of the place, the information I received from different individuals on the spot, and an unbiased reflection upon the whole in my own mind, the result is, that I perceive no cause existing there, which, in my opinion, could have produced malignant fever. Though formerly an advocate for the domestic origin of that disorder, but always believing, that it might likewise be imported, I am induced to suppose that the late disorder at the Wallabout must have been brought there by some one or more of the vessels, which then lay at the Wallabout.

I am Sir, your most obedient servant,

JAMES HARDIE.

(No. XVI.)

Brooklyn, September 12, 1804.

Mr. Coleman.—Sir,

Your letter is just received, nor is the least apology necessary for having addressed it to me. My answer shall be marked by sincerity, and with all the perspicuity in my power.

In reply to your first question I have to say, that the ground at the Wallabout is a fine gravel; with wells of good water. There are now at this place eight dwelling houses and two or three outhouses; the distance between the two extreme houses are about one third of a mile. These houses are sufficiently separated for every purpose of cleanliness or convenience. Middletons and Helme both live under one roof; these two houses only are situated with their rears on the navy-yard to the eastward, but they both have upper and lower windows on that side, and are well ventilated. On the south is a bank of about fifty feet in height, but in this bank there is such a valley that whenever a south wind blows the place below enjoys its share of it. Being surrounded on every other side by running salt water, for there are no fresh marshes near, it almost constantly enjoys cool and refreshing breezes equal to any other place I lately, on a very hot day, and when the wind was south, made the experiment of placing the thermometer in the open air in the middle of the day in the shade below, and afterwards placed it in the open air under a tree in the orchard above, when I found the mercury to rise in a short time nearly two degrees. In a word, I regard it, and have always regarded it, as being as healthy a place as I ever knew; and the present yard is, in my opinion, better ventilated and more accommodated with fresh air and cool breezes than the former ship-yard, now the navy yard was; which is owing to our having dug away the bank since. I cannot express my surprise to you, sir, at lately observing it asserted in an account taken from the Medical Repository, that the place was unfavourable to a free circulation of air, and that the inhabitants suffered from the hot and stagnant air they were compelled to breathe. I find it also stated in the same account, that the two ships now on the stocks prevented the approach of the air from the west and north-west; but, at the time of the fever those ships had very few planks on, so that the air could meet with little or no obstruction; though since, they have been planked, but the fever has not made a second appearance.

For several years I have carried on ship-building, and employed more men at the navy-yard, which joins it; and last year I employed a greater number of men at this same ship-yard, than I did prior to the sickness this year, but so far from being unhealthy, I have been accustomed to postpone engaging my hands till the latter part of summer, when I had no difficulty in procuring workmen a shilling a day cheaper than they would do the same work in New-York; nor have I been able to discover, or have heard of any thing that should make it more unhealthy this year than in former seasons, and since the sickness I have had twice the number of hands at work I had before. I have been at the yard almost every day, but I have never discovered that the ground of the ship-yard was dirty, more than what was caused by dry chips lying about, nor have I seen any more filth of any sort than is usual round houses in such country places. You ask me if there are privies, because, as I presume, the Medical Repository account asserts, "the workmen did not possess the convenience of a privy, the want of which, they say, must have added exceedingly to the other sources of the accumulation of filth." There is a large privy at Helme's house, close by the ship-yard, but the truth is, the workmen do not use it, because the wharf extends so low as always to have more or less water, and during both rising and falling water, has a strong current running by it, and the men go down there. You can judge, sir, whether this "can add exceedingly to the other sources of filth." But it is also said that the boarding houses allotted to the workmen were excessively crowded. The number of houses at the Wallabout, situated within about one third of a mile of ground, is eight; of these seven are two-story houses, and five are double houses, all of them sufficiently roomy for the families that occupy them. The whole number of workmen at the yard, at the time the fever appeared there, was about twenty; of these, one lodged at Mr. Middletons'; seven at Mr. Helme's, three in the house with himself, and four in an out-house; two at Mr. Little's; from four to five at Mr. Rhodes'; at Mr. Titus's two; at Mr. Goodridge's one, and at Mr. Martin's one. As to the number of workmen stowed in single rooms, I have not been able to discover that it was in any instance inconvenient; the greatest number that have slept in a room has been four, all of whom have remained in health.

Your second question relates to the characters of the workmen, and the tenants who occupy the houses. As to this I can only say, that so far as my acquaintance extends, I have uniformly found the workmen to be decent and industrious, and persons of veracity. If your object is to know whether the persons who have made affidavits respecting the fever at the Wallabout, are people to be credited, I have no difficulty in saying, that they are all decent men, and entitled to full credit; and, having read their affidavits, I have no doubt of the facts to which they have testified, as most of them fell under my own observation. As to the tenants, they are as cleanly, well behaved, industrious people as I wish to have in my houses.

In answer to your third question, I well remember the brig and schooner both coming to the Wallabout. The schooner lay off, as I should judge, about one hundred, or one hundred and fifty yards, but the brig lay alongside the wharf, at first at the navy-yard, for some days, and then she hauled her length forward to the ship-yard; where she lay till she was moved down to the quarantine ground.

On the 26th of June, after the brig had been ordered back to the quarantine ground by Dr. Bailey, and after the death of Mrs. Little and Mr. Dring, Dr. Rodgers. the health officer, came up to the ship-yard, and seeing him standing there, I asked him what he thought of the disorder that prevailed at the place, and whether he did not think it was the malignant fever; and told him I wanted information on which I could rely for my guide as to my workmen, who looked up to me for advice whether to stay at the yard or not. He said he had not discovered any thing to induce him to be of that opinion; at this time Dr. Waters came out of Mr. Little's and said one or two more were going; I then asked Dr. Rodgers to go in and see the persons sick there, Jane Johnson and Edward Livingston, and he did so. I then requested him to go over to the mills at the navy-yard and see Mrs. Sherlock, he did so; when he came out of the house, I asked him what he thought? he said Mrs. Sherlock had the intermittent fever, and I need not be alarmed. The next day Jane Johnson died, and the day after, word came to me that Mrs. Sherlock was dying; both she and Jane Johnson died with the black vomit. I then was fully convinced that it was the yellow fever, and advised the people to remove from the place as fast as possible. Most of them did so, and soon after the disease disappeared.

This, sir, is all the information that I presume you want, and all that occurs to me as being material to the question to which it relates. I am, &c.

JOHN JACKSON.

(No. XVII)

New-York, September 12, 1804.

To Dr. Daniel Lord.—Sir,

Being engaged in the investigation of facts, in order to enable the public to form a correct opinion of the origin of the yellow fever, which appeared at the Wallabout, in June last, I conceive that the very interesting nature of this inquiry to the community, is such, as to form my apology for applying to any person who, I may suppose, can give me information on the subject. I therefore, sir, do not hesitate to address myself to you, although I have not the pleasure of a personal acquaintance with you, as I understand you were the first physician called on to visit the sick on that occasion, and can probably furnish me with some important particulars. In order that you may perceive at once the design of my inquiries, and shape your answer to the precise point, I take the liberty to submit the following questions to you:

First—When you saw your patient or patients, did you, at once, judge the disease to be the yellow fever?

Second—Did you discover any thing in the ship-yard, or in the houses, or about them, to induce you to believe the disease originated there?

Third—Did you see one or more vessels lying, at that time, at the Wallabout, to which you thought, and still think, the origin of the disease justly attributable?

Your answer, sir, in as concise a form as you please, will render a service to the cause of truth, and particularly oblige

Your humble servant,

WILLIAM COLEMAN.

(No. XVIII)

New-York, September 12, 1804.

Mr. Coleman.—Sir,

In answer to your letter, just received, I with sincerity declare, that I would very gladly have been excused from seeming to take any side in the controversy. A great aversion to having my name appear in the papers, and still more, a personal friendship for the Health Physician, create a strong reluctance against complying with your request; on the other hand, a sense of duty to the community, and of what is owing to truth, operate forcibly to induce me not to withhold from the public such information relative to the late epidemic at the Wallabout, as is in my possession. I proceed, therefore, briefly to answer your question.

To the first I have to say, that on the 24th day of June I was called to visit Philip Dring, who, I was told, was very sick, with vomiting, &c.

As soon as I saw him I had no hesitation in deciding, in my own mind, that it was a case of unequivocal *yellow fever*, having seen a great deal of that disease since 1797, when I first removed to this city. At the same time, in an adjoining room, lay another person by the name of Cassils, not so ill, but who was then attacked with the disease. In answer to repeated inquiries of what I thought of their illness, I told Mr. and Mrs. Helme, Dring's father and mother-in-law, that it was the yellow fever I then saw Jane Johnson and a man by the name of Livingston, at Mr. Little's, a house within a few yards of Helme's, whose cases I likewise pronounced to be yellow fever.

In answer to your second question I have to say, that being one of those who firmly and steadily believed the yellow fever was a disease of local origin, I inquired of Mr. Helme first, if there were no fresh stagnant water or dead animals in his neighbourhood ? but was answered in the negative, and told the water which covered the surface every where near them, was salt water, and rose and fell with the tide. I next inquired of him where their sink and necessary were ? after being told, and viewing them. I walked over the ship-yard and down to the wharf, and about it, and could perceive nothing that could give the least cause of suspicion, nor did the situation of the houses, or of the adjoining grounds, furnish to my mind any cause for the appearance of the disease.

In answer to your third question, I did see two schooners and a brig: one schooner and the brig lying at the wharf I went on board the schooner at the wharf, which was the Union; on examination she appeared to have been well cleansed and white-washed, both in the hold and forecastle, and I thought her perfectly clean. I did not go on board the brig, for I was informed her cabin and hold, &c. were all locked up, so that I could not examine her. Young Mr. Helme at this time observed, that it must have been the ballast of this brig that caused the mischief, and on inquiry, I found she had unloaded some part of it. If I am asked my opinion on this question, I feel myself, as a man loving truth and candour, obliged to declare, that there was such a total want of local causes, (the wind then being from the north-east and east, and for about a fortnight previous, and the weather quite cool,) that I felt myself entirely overpowered and compelled to relinquish an opinion that had been unshaken for years. It was my decided opinion then, it remained so after two more visits, (and the last for the express purpose of examining into facts,) and I now am necessitated to be of opinion, that the yellow fever was introduced into that place by one or both of the vessels that I saw there.

I am, Sir, your humble servant,

DANIEL LORD."

" I now proceed to sum up the cause, which I shall endeavour to do with brevity, candour and precision. Fortunately, the grounds of the controversy are narrowed by its being, at length, admitted, (with what inexpressible reluctance the public has seen,) that the disease in question was decided *yellow fever*.

" The health-officer, after two deaths had occurred, and while three lay sick before him, pronounced the disease not malignant [or yellow] fever; and after the examination of a third, he deliberately and formally declared it was only an intermittent, and that there was no cause of alarm. While the resident physician, equally acute and discerning, gave it officially as his opinion to the *Common Council*, in the case of Arbutton, even three days after his attack, and but forty-eight hours before his death of black vomit, that there were no symptoms sufficiently marked to warrant an opinion ; and, at the same time informed them that Patrick Profay, another labourer, who had been suffered to come into the heart of the city, and pass through all the stages of the disease without a word's being communicated to the public, or even to the Common Council, " was better." Thus our city was exposed for several days to all the horrors of an epidemic yellow fever, because those to whom the care of it had been particularly committed held a theoretical opinion that the yellow fever was not a contagious disease. Who will say we have not had a narrow escape ? But cases multiplied so fast, and deaths so frequently followed, marked by such peculiar and dreadful symptoms, that at length they admitted that the yellow fever did prevail at the Wallabout. The only question then remaining is, in what way was this pestilence introduced there ? Two only are suggested : one that it originated in the place from bad " air, soil, weather," and other local causes ; the other, that it was imported in the brig La Ruse, from Point-Petre, or the schooner Greyhound, from Cape-Francois, and communicated to the inhabitants.

"The Health Commissioners are the advocates of the former opinion; other physicians, of equal standing in the profession, (to say the least) embrace the latter. Thus were they at issue.

"The first particular information that the public had of the epidemic, was communicated by three physicians of this city, Drs. Hamersley, Stringham, and Gamage, in a letter addressed to his honour the Mayor, and published on the 3d of July, thirteen days after the disease had made its appearance. After stating a number of facts, they observed, that they should forbear making any comments, and that their only wish was to present to the first magistrate, such a statement of facts, as should enable him to take the most proper method for the preservation of the city. What could be more modest, more inoffensive, than this highly praiseworthy conduct? Who could have supposed it could have created animosity in any one? But the facts they stated, though unaccompanied with remark, spoke a louder language than any comments; they went directly to the destruction of a dangerous and darling theory, to which certain medical gentlemen are wedded, and which they seem determined to part with but with life, and to them it gave the highest offence. This offence vented itself in aspersions the most extraordinary the public had ever witnessed in an address by gentlemen of a learned profession to brothers of the same profession. The Medical Repository went the whole length of charging them with *fabricating reports grossly unfounded, for the purpose of abusing the public credulity*, "which would answer no other purpose than to prop a declining doctrine, and to injure the reputation and commerce of New-York." But we were not to be the dupes of this imposing language. We shall soon see who it was that *fabricated reports;* we shall soon see who it was that *abused public credulity* for the purpose of *propping a declining doctrine;* and lastly, we shall see whose doctrine it is, that is indeed *injurious to the reputation and commerce of New-York*, and a libel on our climate and our country.

" The answers have appeared; the first from Dr. John R. B. Rodgers, supported by an accompanying letter of Dr. Walter; the second from Drs. Mitchill and Miller, editors of the Medical Repository, and the latter the resident physician. These are now to be examined.

" Method would seem to require me to begin with a recapitulation of the facts stated by the three physicians, but it will be seen that that is not necessary to a full understanding of the subject. As the editors of the Medical Repository have given us, at large, and with much learning and ingenuity, a particular account of the " local circumstances of the ship-yard, together with the condition of the inhabitants," for the express purpose of *satisfying all reasonable inquirers that the mischief generated there*, I will begin with them. That they may not complain of any " malignant misrepresentations" from me, I shall, whenever practicable, quote their own words; and I shall give the refutation in the words of the witnesses.

" To show the unfavourable situation of the Wallabout, they say:

" *A very high and steep bank, beginning a few feet from the house inhabited by the sick, effectually deprives persons residing there of the benefit of all refreshing breezes from the south and south-west.*"—Medical Repository.

Take the following in answer—

" It [the Wallabout] is so situated as always to have a cool and pleasant air whenever there is wind stirring, from *whatever* quarter it blows; this is more particularly owing to its being surrounded on all sides but one by water, and on that side, which is the south side, there is a break in the hill, so that even when the wind is south, there is always a draught draws down through the ship-yard."—*Rhodes' Deposition.*

Same point—" On the south, is a bank of about fifty feet in height, but in this bank there is a valley, that whenever a south wind blows the place below enjoys its share of it."—*Jackson's Letter.*

Once more—" *The principal houses are so situated with their rears to the eastward on the line of the navy-yard, that for want of doors and windows on that side, they almost entirely exclude the north-east, east and south-east winds.*"—Medical Repository.

E. contra.—" Samuel Middletons, being duly sworn, testifies and says, that his house is under the same roof with that occupied by Simeon Helme, but north of it; that he has *two windows*, one below and one above, *opening eastward on the line of the navy-yard.* but the lower window was cut since the fever."

Same point.—" And the deponent further saith, that this large room had a window that opened into the navy-yard "—*Helme's Deposition.*

Same point.—" Middletons and Helme both live under one roof; these two houses *only* are situated with their rears on the navy-yard to the eastward, but they *both* have upper and lower windows on that side, and are all ventilated."—*Jackson's Letter.*

Once more.—" *Two ships on the stocks, surrounded by their scaffolding, together with large quantities of timber deposited in different situations, prevented, in a great degree, the approach of currents of air from the west and north-west.*"—Medical Repository.

E. contra.—" Isaac M. Brown, being duly sworn, deposeth and saith, that being at work on the stern of a new ship on the stocks, which was then only *in frame,* with not *three streaks* of plank on her bottom."

Same point.—" I find it also stated in the same account, that the two ships on the stocks prevented the approach of the air from the west and north-west, but at the time of the fever, those ships had very few planks on, so that the air could meet with little or no obstruction; though since, they have been planked, but the fever has not made a second appearance."—*Jackson's Letter.*

Once more.—" *From these circumstances, it results, that the only wind which had free access to the ship-yard, or could ventilate it with any effect was a* north *wind, which seldom blows during the hot season. The effect of these circumstances was strongly felt and acknowledged by the inhabitants of the place, who described in striking terms, the unfavourableness of it to a free circulation of air, and their sufferings in consequence of the very hot and stagnant air they were obliged to breathe.*"
Medical Repository.

E. contra.—" And the deponent further saith, that he views the Wallabout to be a healthy situation, well accommodated as to a free circulation of air."—*Helme's, jun Deposition.*

Same point.—" Nor has the deponent ever heard of any complaint by any person at the yard, of the want of a free circulation of air."—*Brown's Deposition.*

Same point.—" Nor had he ever suffered for want of circulation of air, or excessive heat while working there."—*Livingston's Deposition.*"

Same point.—"And the deponent further saith, that he has never heard any inhabitants at the Wallabout, nor any of the workmen employed there, complain of the want of a free circulation of air, or say that they thought the place an unfavourable situation, but on the contrary he has frequently heard the workmen speak of it as being far preferable on that account, to the other side of the river in New-York".—*Rhode's Deposition.*

Same point.—"Nor has he ever heard any complaint of the want of a free circulation of air, but on the contrary, when there has been any air stirring any where, the Wallabout has its full proportion." *Randel's Deposition.*

Same point.—"The deponent further saith, that whenever any wind is stirring, from whatever quarter it blows, the yard is as well supplied with fresh and cool breezes as any place whatever; and when the wind blows from the south east any way hard he is obliged to shut his shop window; nor has he ever heard any complaint of a want of circulation of air by any of the people."—*Wakeman's Deposition.*

Same point.—"Nor did he ever hear any person complain, or perceive himself, that the ship-yard at the Wallabout was so situated as not to have a free circulation of air."—*Wright's Deposition.*

Same point.—"Being surrounded on every other side by running salt water, for there are no fresh marshes near, it almost constantly enjoys cool and refreshing breezes equal to any other place. I lately, on a very hot day, and when the wind was south, made the experiment of placing a thermometer in the open air in the middle of the day, *in the shade below*, and afterwards placed it in the open air under a tree *in the orchard above*, when I found the mercury to rise in a short time nearly two degrees. In a word I regard it, and have always regarded it as being as healthy a place as I ever knew; and the present yard is, in my opinion, better ventilated and more accommodated with fresh air and cool breezes than the former ship-yard, now the navy-yard, ever was; which is owing to our having dug away the bank since. I cannot express my surprise to you, sir, at lately observing it asserted in an account taken from the Medical Repository, that the place was unfavourable to a free circulation of air, and that the inhabitants suffered from the hot and stagnant air they were compelled to breathe."—*Jackson's Letter.*

"I have been the more particular in multiplying testimony as to this single fact, because it is one that seems to depend on the experience and feelings of numbers. We now return to our two physicians.

"*The boarding houses allotted to the numerous workmen at this ship-yard were excessively crowded. The number of lodgers stowed in single rooms was, in several instances, so large that great danger must have resulted from this source, in a situation ever so favourable on other accounts. In one instance, it is asserted that nine labouring men, with their bedding, &c. were obliged to pass their nights in a room about ten or twelve* *feet square, with only one window and door. In several other cases which have been distinctly related, the degree of crowding was nearly as great.*"—Medical Repository.

E. contra.—" On examination the deponent is fully convinced, that in no instance, any of the boarders have been, before the sickness or since, crowded at the houses at Jackson's yard."—*Rhodes' Deposition.*

Same point.—" The deponent further saith, that he never has heard any complaint by any of the workmen of being crowded in the boarding houses by night or day, nor does he believe, from inquiry, any cause of such complaint ever existed."—*Randel's Deposition.*

Same point.—" For several years I have carried on ship-building, and employed more men at the navy-yard than now at the ship-yard which joins it; and last year I employed a greater number of men at this same ship-yard, than I did prior to the sickness this year, but so far from being unhealthy, I have been accustomed to postpone engaging my hands till the latter part of the summer, when I had no difficulty in procuring workmen a shilling a day cheaper than they would do the same work in New-York; nor have I been able to discover, or have heard of any thing that should make it more unhealthy this year than in former seasons; and since the sickness I have had twice the number of hands at work I had before."—*Jackson's Letter.*

Same side.—" But it is also said that the boarding houses allotted to the workmen were excessively crowded. The number of houses at the Wallabout, situated within about one third of a mile of ground, is eight; of these, seven are two story houses, and five are double houses, all of them sufficiently roomy for the families that occupy them. The whole number of workmen at the yard, at the time the fever appeared there, was about twenty; of these one lodged at Mr. Middletons'; seven at Mr. Helme's, three in the house with himself, and four in an out house; two at Mr. Little's; from four to five at Mr. Rhodes'; at Mr. Titus's two; at Mr. Goodridge's one, and at Mr. Martin's one. As to the number of workmen stowed in single rooms, I have not been able to discover that it was in any instance inconvenient; the greatest number that have slept in one room has been four, all of whom have remained in health."—*Same Letter.*

" To show the manner in which these unhappy workmen were stived up, so that the poor fellows engendered, and indeed could not but engender yellow fever, Dr. Daniel D. Walter is brought forward. This diffident young gentleman tells us that he does not want to hear any discussion of the question of importation; to show however, that it was not imported, but originated in the house of Mr. Helme, he has undertaken to give us the precise dimensions of Helme's house, every way, to a single foot, and as his ill-stars will have it, he is not right in any one particular: he has also undertaken to give us the number of lodgers, in which the same bad luck attends him, for he has not stated the number right in any one room, excepting the outer kitchen. He says, in a letter to Dr. Rodgers,

> "*You wish to be informed of the number of inmates dwelling in each house. In Mr. Helme's house, which consists of two rooms, each fifteen feet square, and two, each eleven feet square, and a very small kitchen, in all five rooms, there lived twenty-four or more persons, twelve of whom or* more *have constantly slept in the two lower rooms, eight or* more *in the two upper, and four or more in the kitchen.*"—Walter's Letter.

"Suspecting, from what had fallen under my own observation, that the doctor was a little mistaken, I wrote to the occupant for information. The following is an extract from his answer.

> "The house I now occupy is two stories high, containing two large rooms sixteen by eighteen feet, one in each story, and two small rooms ten by twelve; besides this, there is a kitchen in a separate building fourteen by fourteen. At the time of the fever there slept in the lower part of the house, myself and wife, Mr. Dring and wife and his four children, and my two daughters. In the upper rooms slept Mr. Leeds and wife and two children in one room, and two men, boarders, in the other room; and four boarders, workmen, slept in the kitchen, making in the whole, twenty persons, which then composed the family. Yours,
>
> SIMEON HELME."

"Our unfortunate doctor happens not to be exactly right in any single item; and this may be all a very innocent mistake; I doubt not it is; though, it also happens that every error is on the side of exaggeration. But we will let that pass.

> "*There was but one instance of a family at this ship-yard enjoying the comfort of apartments sufficiently spacious and commodious in proportion to their number, and these all preserving good health, while the neighbours around them were sickening and dying.*"

" In support of the same curious and instructive fact, is the following extract from Doctor Daniel T. Walter—

" *It ought to be observed before quitting this subject, that Samuel Middletons' family, consisting of six persons, have lived during the whole sickly season at the Wallabout, in the north-east end of Mr. Helme's house, next the water, and of course nearest the vessels, and have enjoyed an uninterrupted state of health; but Mr. Middletons' family occupies exactly half the house, which gives six persons, in one instance, as much room as nearly thirty enjoys in the other. If, however, the fever was derived from the vessels solely, this circumstance ought to be of no avail, and Mr. Middletons' family ought to have been the first to have taken it.*"—Walter's Letter.

E. contra.—" The deponent saith, that he has two windows, one below and one above, opening eastward, on the line of the navy-yard, but the lower window has been cut since the fever."—*Middletons' Deposition.*

" As Helme had a lower window before the fever, opening east on the navy-yard where the brig La Ruse lay before she was moved, and Middletons had not, this might account for Helme's family taking the disease and Middletons' escaping. If, however, this should not be thought satisfactory, then take the following extracts, in answer to the statement of the Repository, that " Middletons' family all preserved good health," or, as Dr. Walter says, " uninterrupted health."

" The former of whom [Brown] was taken with the yellow fever on the 21st, and the latter, who boarded in the deponent's house, was taken on the 26th."—*Middletons' Deposition.*

Same point.—" On the Wednesday following, to wit, on the 20th, the deponent found himself attacked with pain in the head, back and limbs, on which he told Mr. Middletons that he hoped for the best, but he felt just as he formerly did when he had the yellow fever; soon after he was attacked with it, and was sick about three weeks, when he recovered. And the deponent further saith, that he boarded in the house of Mr. Middletons, adjoining the house of Mr. Helme north-east, and under the same room."—*Brown's Deposition.*

" *The quantity of animal and vegetable filth overspreading the ground, and lying about the boarding houses, taken in connexion with the other circumstances of the place, was sufficient to generate great mischief. No* *plan of properly cleansing the yard seems ever to have been adopted; of course this filth has been progressively accumulating, and becoming more dangerous ever since the establishment of this place was first undertaken.*"—Medical Repository.

E. contra.—" The ship-yard is as clean as ship-yards usually are, any where, nor is there any animal filth or vegetable filth lying about or near it, so as to cause any kind of inconvenience to any person in the place ; and further saith not."—*Helme's, Jun. Deposition.*

Same point.—" Nor has he ever perceived that the yard was less clean, or the ground about it, than other ship-yards in New-York."
Brown's Deposition.

Same point.—" And the deponent further saith, that he never experienced any inconvenience from dirt or filth lying about the yard or the houses, nor saw more than is usual at ship-yards."—*Livingston's Deposition.*

Same point.—" And the deponent further saith, that there is not nor was at the time of the appearance of the fever, or at any other time this summer, any animal or vegetable filth overspreading the ground at the ship-yard or round the boarding houses near it, but that it is and has been as clean as the ship-yards usually are in New-York."—*Rhodes' Deposition.*

Same point.—" During the present season, the ground of the ship-yard, and the grounds about the houses, have been, and are as clean as is customary, as clean as other ship-yards are, and as the former ship-yard used to be ; that all the time the deponent has been so occupied before and during the late fever, and since, he has never observed any thing of so filthy a nature as to cause the least inconvenience to the persons residing there."—*Randel's Deposition.*

Same point.—" And the deponent further saith, that the ship-yard, with which he has been acquainted for seven years, has always been in a clean and healthy state, and as clean the present year, since it was removed to Jackson's wharf, both before and at the time of the fever, as it ever was when it was kept at the navy-yard on the other side of the fence."—*Wakeman's Deposition.*

Same point.—" And the deponent further saith, that he never observed that the ship-yard, or any of the ground about it, was in a more dirty or filthy state than is customary at other ship-yards, and such as is caused by the quantity of dry chips that lie loose about the vessels."—*Wright's Deposition.*

Same point.—" I have been at the yard almost every day, but I have never discovered that the ground of the ship-yard was dirty, more than what was caused by dry chips lying about, nor have I seen any more filth of any sort than is usual about houses in such country places."—*Jackson's Letter.*

Same point.—" My first object was to examine the state of the houses, with respect to cleanliness, and I had the satisfaction of perceiving that the inhabitants had not been negligent in regard to this important article. The rooms, which had been occupied by the sick, had been thoroughly cleansed, and the houses whitewashed ; nor did I see any thing offensive in the vicinity."—*Ibid.*

"To the above I may add, that from the view I had of the situation of the place, the information I received from different individuals on the spot, and an unbiased reflection upon the whole in my own mind, the result is, that I perceived no cause existing there, which, in my opinion, could have produced malignant fever."—*Letter from the Secretary of the Health Committee.*

Same point.—"I walked over to the ship-yard and down to the wharf and about it, and could perceive nothing that could give the least cause of suspicion, nor did the situation of the houses, or of the adjoining grounds, furnish to my mind any cause for the appearance of the disease."—*Dr. Lord's Letter.*

"*The number of persons at this place was sufficient to carry on the work of building two large ships, and of occasionally repairing others. Yet these workmen did not possess the convenience of a privy, the want of which must have added exceedingly to the accumulation of filth. When* all these facts *are considered in connexion with the local circumstances of the spot, which rendered ordinary ventilation impossible, it will not appear strange that a malignant disease should have been generated at this place.*"—Medical Repository.

E. contra.—"You ask me if there are privies, because, as I presume, the Medical Repository account asserts, "the workmen did not possess the convenience of a privy, the want of which, they say, must have added exceedingly to the other sources of the accumulation of filth." There is a large privy at Helme's house, close by the ship-yard, but the truth is, the workmen do not use it, because the wharf extends so low as always to have more or less water, and during both rising and falling water, has a strong current running by it, and the men go down there. You can judge, sir, whether this "can add exceedingly to the other sources of filth."—*Jackson's Letter.*

"One would suppose from this that the situation, in respect to privies, had the advantage over almost any other, and must be remarkably inoffensive in this particular.

"But this affair of the privies is not the least curious in our curious medical account. To understand it, I must remind the reader, that it is now some years since the advocates for domestic origin, in their search after causes of yellow fever in the United States, added to their list, *privies and new made grounds.* The moment the yellow fever appears in any of our cities, these zealous gentlemen run about the neighbourhood inquiring after privies and new made grounds; and, as the epidemic has, heretofore, always appeared on some of the wharves of the East river, there has never been any difficulty to discover at once both privies and new made grounds. As soon as the fact is put beyond question, they *go their way rejoicing* at the discovery of another piece of testimony in favour of domestic origin. Thus, after it had been well ascertained that the fever actually existed at the Wallabout, they went over in pursuit of privies and new made grounds; those two never failing sources of *septic acid vapour*. As soon as they got there, they saw it was in vain to look for new made grounds, and, they next inquire after sinks and privies! when behold there are none! What's to be done now? One gentleman, more candid than the rest, acknowledges, that finding the absence of this, and every thing else that could be justly considered as a local cause, he felt himself compelled to relinquish an opinion that had been unshaken for years. Such conduct is honourable. Not so with the editors of the Medical Repository; these great champions of domestic origin, meeting with neither new made ground nor *privies*, wheel right about, and declare that the disease was caused by the *want* of privies. "The want of a privy, quoth the Medical Repository, must have added *exceedingly* to the other sources of the accumulation of filth," and "it will not appear strange that a malignant disease should have been generated at the place."

"Dr. Miller, the Resident Physician, to whom Dr. Rodgers, the Health Officer, referred his Honour the Mayor, for more particular information respecting the Wallabout than he could give, because Dr. M. had been on the spot, (though, by the way, so had the Health Officer, as appears from Mr. Jackson's letter) chose, it seems, to make his communication in form of an article for the

Medical Repository and Review. This Medical Repository and Review is an octavo volume, respectable for its size, and imposing in its appearance, and it circulates not only throughout the United States, but several copies go annually to Europe, where it is read by the faculty there, as the work of the most eminent medical men in this country. In such a work, professedly undertaken for the purpose of exposing the ignorance, correcting the mistakes, and detecting the misrepresentations of others, surely the public have some right to expect at least a little more than usual attention to accuracy in itself. What then will be their surprise, and how must it affect the reputation of the work, that the only article, (and that on a favourite subject too, where more than customary care would be expected,) which has been subjected to a rigid criticism, is found to be, not merely, very often wrong, but never once right! But we have not room for multiplying observations of this sort; we hope, indeed we feel very confident, that the editors of the Medical Repository have some way of accounting for this, beyond what we know of; especially, since they are so loud and so frequent in charging other gentlemen with fabricating "gross and glaring mistatements." But, at any rate, this detection of their errors should teach them a little more caution in future, inspire them with a little more modesty, and render them a little less presumptuous in their attacks upon gentlemen whose characters, private and professional, stand as fair and as exalted as their own.

"As Dr. Rodgers has thought proper to mention the *weather* as one of the causes of yellow fever at the Wallabout, I here present the reader with a transcript from a table of meteorological observations, beginning eight days before the disease appeared, and continuing till the day on which the last "new case" occurred.

THERMOMETER.

	9	12	3
June 12	65	60	59
13	67	71	74
14	70	71	72
15	66	72	77
16	70	76	76
17	72	76	80
18	77	80	83
19	74	76	74
20	67	67	67
21	68	68	68
June 22	68	68	69
23	70	72	74
24	72	76	78
25	69	69	71
26	69	72	76
27	75	79	81
28	78	80	83
29	70	76	78
30	71	72	75
July 1	64	68	68

"By inspection of this table it will be seen, that excepting four days, the weather was even below "summer heat," and in no instance was the heat excessive.

"Having shown that the origin of the epidemic is not to be accounted for from any of the causes assigned by the Health Commissioners, neither from the "air, soil, or weather; local situation of the Wallabout; the position of the houses, or the materials surrounding them;" all of which are pointed out by the Health Officer: Having *proved* that, in all these respects, whatever has been advanced, has been, throughout, 'gross misrepresentations,' we are necessarily driven to seek for the origin of the disease in the other, of the only two assigned causes; namely, vessels recently arrived from the West-Indies. As there are but two causes, foreign and domestic, to which the disease can be attributed, if it appears that there was a total absence of one, sound logic would warrant me in leaving it here, and saying, that as it is not of domestic, it must necessarily be of foreign origin; at any rate, a very slight degree of proof ought, in this case, to be admitted as competent and conclusive. To the vessels, then, let us now turn our attention.

" I begin with the schooner Greyhound. She arrived, as appears by the newspapers, on the fourth of June, Dr. Rodgers says the second, (this is not very material,) after a passage of sixteen days. What day she was suffered to come up to the Wallabout is no where stated. On the 18th, it appears, her bilge-water was pumped out on the south side of her, she then lying to the windward of the Wallabout, at the distance of one hundred, or one hundred and fifty yards. The Health Officer says, that while she was at the quarantine ground, " her bilge-water was *completely* pumped out, and the water from the pump clear and free from smell." It may be so; had the Health Officer said he saw this with his own eyes, it would not have been decorous to have doubted it; and though this schooner, as I am informed by the owner, is so remarkably tight, that she is said not to leak at all, yet as we know that all vessels leak more or less, I shall admit that she was pumped out at the quarantine, and that the water which came from her so black and with such an intolerable stench after lying some days at the Wallabout, was what she took in while she lay there. And I desire no other concession than this in favour of my argument. But before I proceed to the inference, I must go on a little further with the Health Officer's letter. " *All the ports*, (says the Health Officer,) from which the vessels now in the Wallabout, or which have been there since the first of June, sailed *from*, were, at the time of their respective departures, in *great* health." " Guadaloupe too (says he) was very healthy when La Ruse sailed, and had been so for a long time before."

"I acknowledge it is extremely difficult to obtain from captains of vessels, or any of the crews, the truth as to the health of the port they sailed from. They all think they are perfectly justified to make use of any sort of misrepresentation, nay, if it is absolutely necessary, some of them think they may back it with an oath, to evade the irksome operation of quarantine laws. Hence, in some parts of Europe it has been found, by experience, necessary to punish such misrepresentations with death; nothing else being found adequate to restrain them. All this, however, is as well known to the Health Officer as to me, and his experience should have taught him to speak with some sort of diffidence. Yet he not only informs us that all the ports were in health, but "*great* health." To make it still stronger, the editor of the Repository undertakes to say, that "it appears from *incontestible evidence*, laid before the public by the Health Officer, that the vessels in question came from ports which were in a very healthy state." Now I say no "evidence" at all has been laid before the public by the Health Officer. He has said, indeed, that the ports were healthy; but this we know is only information derived from others; derived too, under strong temptation to deviate from the truth, and, after all, it does not appear what his information is, from whom derived, or how authenticated. He has "laid nothing" of this sort before the public. I say, Messieurs Editors of the Repository, in direct contradiction of you, that he has *not* laid *incontestible* evidence before the public, and to call it so, is a palpable perversion of language, calculated to make an impression, wherever your book is read, materially wide of the truth.

" I suppose I am not expected to send to the West-Indies and get depositions there; though I am sorry it has not been in my power to do so. I shall however give the best evidence the nature of the case admits of. First then, an extract from a southern newspaper.

> " Died at Cape-Francois, on the 16th of June, of the *yellow fever*, Mr. Edward Moulson, late Merchant of this place."

" Making proper allowance for the time Mr. Moulson was sick, and supposing that the fever had been so long in the place as to have been prevalent before he sickened, the Cape, at the time of the departure of the Greyhound, could not have been in great health. As to the case of La Ruse from Point-Petre, I have been fortunate enough to meet with the captain, who was so candid as to give me some important information. He informs me, and has signed his name to the information, that " *Before Captain Storey sailed, he understood some cases of the fever had occurred at the place.*"* 'Tis true, he adds, that the disease was not so 'prevalent,' as that it could be called a '*sickly port!*' but this I must beg permission to say, is only setting up opinion against fact. What is a '*sickly port*' is the most vague of all things. How many cases of sickness, or how many deaths, or how wide spread must be the fever before the place can be called a sickly port? The fact is stated, clearly and undeniably, that the disease had made its appearance before the brig sailed, after having lain there about six weeks. The next important fact is, that, on the eighth day after her departure, one of the crew sickened, and the next day, another; one recovered and the other died, after three days illness. "*His bedding and all his clothes were thrown overboard with him.*' This is always the case when the deceased is supposed to die of a contagious disease. The bedding and clothes of Jack, however, (the other person who was sick,) were not thrown overboard; but preserved and brought into port. The following paragraph appeared in the Aurora of the 10th inst.—

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* Vide page 294.

> " We understand that our Board of Health, perceiving that persons in many vessels from Point-Petre were affected with yellow fever, have, during the last two months, subjected all shipping from thence to a rigid quarantine, and we now deem it our duty, for the sake of the health of the other ports of the United States, to declare from *authority* that the Board yesterday received official information of the prevalence of the yellow fever both on shore and in the port of Point-Petre."

" This, I think, shows pretty conclusively what sort of fever had begun to prevail there before the departure of La Ruse; indeed, the captain did not deny to me but it was the *yellow fever;* and the short time the cook lay sick, with the circumstances of destroying all his clothes and bedding prove, in a manner equally satisfactory, that he died of the prevailing epidemic.

" After this I shall submit it to the Health Officer, whether he ought not to have expressed himself with a little more caution as to the healthiness of the ports of Cape Francois and Point-Petre; and I shall ask the editors of the Medical Repository, what are their real notions about 'attempts to abuse public credulity, or whether they think a man may do it without any offence against propriety or morals, provided only he does it on the right side—that is to say, in behalf of *domestic origin?* But to proceed—

"I now come to the situation of the vessels after their arrival. The Health Officer says the brig was clean, free between decks, nothing in the hold but stone ballast, and this free from smell; and that this ballast was thoroughly washed and cleansed. Dr. Bayley, he says, found all the vessels at the Wallabout in such a situation as to warrant him in saying "no evil could possibly have arisen from them." He, however, saw one barrel of tainted beef, which he ordered to be thrown overboard. It is also added, that none of the crew or passengers of the brig have been sick since her arrival. This opinion of Dr. Bayley, I hope, by the way, is not to be considered as *incontestible evidence*; and therefore, for the present, I will lay it out of the case.

"We have now the circumstances of these two vessels pretty well before us. They, both, were from ports where the yellow fever prevailed; and had the Health Officer been as well satisfied of this at the time he permitted them to come up from the quarantine, as I have no doubt he is now, I venture to say, he would not have permitted it. He was, unquestionably, in the first instance, deceived, and I am sorry that he or his friends should think it necessary to persist in circulating a statement to justify him on a supposition that he was not. The vessels, then, were from ports where a malignant fever prevailed at the time of their departure. But at the quarantine ground they were as well cleansed as washing could cleanse them. And will washing cleanse a vessel on board of which contagious diseases have prevailed? That it will not, I shall produce their own authority, I mean the authority of the Medical Repository.

"On the 27th of June, 1800, the United States ship General Greene, sailed from the Havanna for America.

On the 31st of July she was moored in Newport harbour. On this occasion the Repository says:

> " Every customary method of preserving purity of air, and the health of seamen had been assiduously observed. The ship was freely ventilated, scoured, white-washed, sprinkled with vinegar, and the nitrous fumigation particularly recommended by Doctors Smith and Patterson, was frequently excited between decks. But notwithstanding all these precautions, and the still more favourable circumstance of her arrival in a more northern latitude, there was one man attacked on the day of her leaving the Chesapeake, (July 11th) with a highly malignant fever, which terminated on the fifth day; and on the day after his attack, another was seized similarly, and died in eighteen hours."—*Medical Repository*, v. 4. p. 235.

" In short, it was the case where a ship's crew after being healthy at sea, are attacked as soon as they get into port with decided yellow fever. It was proposed first to send her down to quarantine, but a temporary abatement of the disease induced the inhabitants to give up this rigid proceeding; the vessel was therefore suffered to remain, but was hauled from the wharf into the stream, and the sick were sent off as fast as they were taken ill, to a distant hospital. I need hardly add, that the consequences were, that, in a little time, the yellow fever was introduced into the town of Newport. Yet does the correspondent of the Medical Repository, as to that case, say, " It is impossible to reduce to satisfaction the opinion that *all* the cases were derived from the ship, since some occurred wherein the patients had no communication either with the ship or any who had the disease." It is added, that " soon after the offensive filth, which collected between the ship's ballast, was, with it, removed, and the ship properly cleansed, no instance of fever occurred on board her." I belive it must be admitted that this ship had been more, much more thoroughly cleansed than the brig La Ruse, yet was it all insufficient until after the ballast had been removed.

" There is one circumstance in this Report which arrests attention, as it is precisely in point with the very case before us, in reference to the Greyhound at the Wallabout. And as one fact is always worth a volume of the best arguments on earth, it will save us a world of controversy with Dr. Mitchill about the nature of infectious poison chemically dissolved in caloric; or the qualities of pestilential air, formed from *septic* materials, by a *septic* process, thereby creating a *septic* gas; which may diffuse and spread itself through the atmosphere, after the manner of hydrogen gas, or carbonic acid gas; I say all this chemical learning must vanish before a well attested fact. In the same account of the fever at Newport from this correspondent, I find the following recorded.

> " Notwithstanding these prudential cautions, other inhabitants who had worked on board the ship, and in particular, *one young man and two boys who had bathed near her at the time her* BILGE-WATER was pumped out, were attacked with the disease and died."—*Id.* p. 236.

" Now it is in evidence, that in the first six cases that occurred at the Wallabout, every person taken sick, complained of the shocking smell of the *bilge-water* of the Greyhound, or the Greyhound and La Ruse, for both were pumping at the same time, and that it was so very offensive as in some to cause qualms. Well, but, says one, this is evidence not of foreign but domestic origin; for the water was made while she lay at the wharf. I shall ask then, why the filthy bilge-water, which is every day made by the hundreds of vessels lying at our wharves, and near them, does not produce the same effect? Can it be believed that the vessels in question, after being so thoroughly cleansed as they were, would cause an epidemic fever, if they had not some peculiar quality existing in their holds, among their ballast, or adhering to their timbers? But, says the Health Physician, the crews and passengers were all healthy. In answer to this I must once more take the liberty of opposing the authority of the Medical Repository itself.

"It [sickness] may affect only the crew and disappear; or *the crew may sustain it, uninjured, by a habit gradually formed,* and the first effects be felt by *healthy, unhabituated persons in the first port she visits.*"—*Medical Repository,* v. 2. p. 86.

"Supposing it may be more satisfactory to the reader to have the precise fact laid before him as to the effects of the *bilge-water,* mentioned in my last, I here extract from the several depositions what the witnesses have, each, said.

"And the deponent further saith, that the evening before Philip Dring was taken, he told this deponent that he never in his life smelt any thing so very bad as the smell from the vessels; meaning the brig La Ruse and the schooner Greyhound, which lay at a little distance from the wharf, but which had been pumping out their bilge-water, and that he heard Mrs. Little make a similar observation.—*Helme's Deposition.*

Same fact.—The deponent further saith, that when the brig La Ruse lay at the navy-yard, the schooner Greyhound lay at about one hundred or one hundred and fifty yards distant from the wharf, and while there, on the morning of the 18th or 19th of June, as the deponent was at work in the ship-yard, he perceived a most shocking smell, to come from the water, the wind then being about north, and looking up he observed the schooner was pumping out her bilge-water, which was the cause of the smell. At this time Philip Dring and Isaac Brown both complained to the deponent very much of this offensive smell, and the latter was obliged to leave his work in consequence, and go and get a drink of brandy and water; in a day or two afterwards they were both taken with the fever."—*Helme's Jr. Deposition.*

Same fact.—"The deponent on either Saturday the 16th, or Monday the 18th of June, was addressed by Philip Dring, who was at work on the stern of an adjoining ship, and asked what was that nauseous and disagreeable smell, to which the deponent said it was the bilge-water then pumping out of the schooner Greyhound, which lay, as near as the deponent can judge, about one hundred and fifty yards to the windward, or that it came from the brig La Ruse, which was also then pumping out her bilge-water, and which lay within about thirty yards of where the deponent was at work. The effect was so disagreeable that the deponent got off the stage and went and got a glass of brandy and water. And the deponent further saith, that he heard Mrs. Little complain of the bad smell of the bilge-water, and that she asked him what it was that smelt so bad at the time he went up and got the brandy and water."—*Brown's Deposition.*

Same fact.—" The deponent further saith, that he well remembers that on the 18th of June, he was in the ship-yard in the morning, when the Greyhound was pumping out her bilge-water, which smelt excessively nauseous; he heard both Dring and Brown complain of it." *Middletons' Deposition.*

Same fact.—" On the 18th or 19th of June, as he was at work one morning in the saw-pit, he was struck with a most dreadful smell, which he perceived to come from the bilge-water then pumping out of the Greyhound, lying about one hundred, or one hundred and fifty yards from the wharf."—*Livingston's Deposition.*

Same fact.—" The deponent further saith, that he was at work with Philip Dring, on the stern of the new ship, when the smell of the bilge-water was so nauseous and offensive to them all, and when Dring spoke to the deponent and asked him what was the cause of such a dreadful smell? The deponent looked toward the schooner Greyhound, and saw her pumping out her bilge-water, and he saw the water come out so very black as to turn the water black at her side."—*Wakeman's Deposition.*

Same fact.—" James Cassils, of lawful age, being duly sworn, deposeth and saith, that he was one of the labourers who worked at the Wallabout as ship-carpenter, and was in the yard on the 18th of June, when he perceived a very disagreeable smell to come from the vessels, and looking towards the schooner Greyhound, saw she was pumping out her bilge-water, which seemed to be the cause of it.

" And the deponent further saith, that on the 20th of June he was taken with the yellow fever."

Same fact.—" Samuel White, of lawful age, being duly sworn, deposeth and saith, that he was one of the ship-carpenters who worked at the Wallabout, and was in the yard on the 18th of June, when he perceived a very disagreeable smell to come from the vessels, and looking towards the schooner Greyhound, saw she was pumping out her bilge-water, which seemed to be the cause of it; and the deponent further saith, that on the 20th of June he was taken with the yellow fever."

" There have been two other causes of disease found in those vessels, or at least one of them; namely, the spoiled beef, and the foul ballast of the brig La Ruse.

" It is admitted by the Health Officer, that Dr. Bayley saw " one barrel of beef on board the brig which was in an unsound and tainted state, which he immediately ordered overboard." Yet it is said that Dr. Bayley found the vessels in such a state, as to " warrant him in saying, that no evil *could possibly* have arisen from them." After what these domestic gentlemen have so repeatedly told us of tainted beef's producing disease, I must be permitted to express a little surprise at the positive manner in which Dr. Bayley is stated to have given this opinion. Let us turn to what the Medical Repository has said of the effects of tainted or spoiled beef. In the same article, entitled, "State of the weather and diseases" in 1799, we find them thus expressing themselves—

> "Yet, notwithstanding the duration and intenseness of the winter, there were instances of disease, now and then to be met with in the city of New-York, caused by *septic* effluvia. A number of these could be traced directly to the remains of the *spoiled* or *tainted beef* of the preceding season, sold at auction during the cold weather," and "used for food in its semi-putrid state."—*Med. Rep. vol.* 3. *p.* 63.

"Again, in the same volume is an article entitled, "Septic acid vapour, extricated from corrupting *beef.*" The article is too long to transcribe; but the intention of it is to prove that "the acid quality of the putrifying flesh, and of the gas flowing from it," was the cause of a number of deaths at Burling-slip, in 1798. Lastly, to prove demonstratively that the septic acid vapour of a single barrel of spoiled beef, even when standing in the open air, will give the yellow fever itself, they have published a long letter from Tunis Wortman, Esq. showing that while the epidemic raged in New-York, with a degree of violence and mortality never before or since witnessed, Mr. Roorbach caught the same disease by frequenting a foot-path every day, within six or eight yards of which stood a barrel of spoiled beef. See Med. Rep. v. 3. p. 402. I confess I do not believe that spoiled beef will ever communicate the yellow fever, unless it comes from a place where that disease exits; but with the correctness of these gentlemen's notions on this subject I do not here meddle: yet, methinks, after labouring to prove that *spoiled beef* has produced, and will produce yellow fever, it is not very like consistency, for them now, because this beef is found on board a vessel that has somehow been permitted to come from the quarantine ground, to insist that no evil could possibly arise from it. Nor is it calculated to give us a very favourable impression of the candour of the editors of the Medical Repository, that in the whole of their elaborate article, they have never once mentioned the fact of the tainted beef: heretofore, according to them, the primary cause of pestilence and death. But I suppose tainted beef brought from the West-Indies is not so unhealthy as that which spoils in our unfortunate climate; nor possesses any of that deadly *septic acid vapour* which the pestilential air of New-York produces.

" It only remains to consider the foul ballast of the brig La Ruse; which, of course, must make foul bilge-water, and which is, in itself, and has always been considered one method of communicating pestilence.

" To guard against the frequent source of yellow fever from the noxious air in the holds of vessels, we recommend the unloading such vessels as contain cargoes liable to putrefaction, and *the discharging the ballast of all vessels at a distance from the city.*' —*Letter from the Philadelphia Academy of Medicine.*

" This I give the more cheerfully, because the Academy are great sticklers for domestic origin; and because I am able to support it by another authority, which in the opinion of the editors of the Repository will be thought, I presume, equally respectable; I mean their own. In their review of Caldwell's oration, on the origin of pestilential diseases, having observed that he ascribed much mischief to the foul air emitted from the putrid *ballast* and damaged cargoes of vessels, they add;

"We are not disposed to controvert; on the contrary, we admit the frequent production of cases of pestilence from *this* source."—*Med. Rep. v.* 3. *p.* 60.

"But the Health-Officer says, the ballast of the brig was washed "till the water came from her as pure, as clean, and as free from smell, as the water of the ocean." To this, admitting the fact to be precisely as stated, the answer is furnished by the case of the General Greene, as quoted yesterday from the Medical Repository. In that instance, every possible method of cleansing was resorted to; the ship was "freely ventilated, scoured, white-washed, sprinkled with vinegar, and fumigated," yet, until the ballast was removed out of her, it answered no purpose. But in this case the Health Officer tells us, that neither Capt. Wadsworth nor Capt. Chammings could perceive any disagreeable smell on board her; and that he himself went up on the 26th June, and "attentively examined the vessel and ballast, and could perceive no evil, or detect any disagreeable smell or effluvia in her;" and that the ballast, which was brought to quarantine and unloaded, he has "passed over again and again," nay, that he had even "handled and smelt to it," but could detect no evil. As his learned friend, Dr. Mitchell, has demonstrated in an ingenious pamphlet, published some years ago, that "though pestilence may be accompanied, *evidently*, with *stench;* yet its most formidable effects are felt when neither the sight nor the *smell* give *any evidence* of its presence," I cannot for my life see why Dr. Rodgers should make such a point of smelling to this ballast, especially after it had been removed from the brig, landed at Staten-Island, and had lain exposed to the weather I dont know how long. But let us see how our *evidence* stands as to this—

" And the deponent further saith, that he heard Capt. Chammings say, that when he opened the hatches and went down the hold of the brig La Ruse, there was a very disagreeable smell, but that he conceived it to be no more than what had been caused by the confined air of the hold, and therefore did not mind it. And the deponent further saith, that he heard Benjamin Brown, the boatman employed in taking out the ballast of the brig La Ruse, say, that the ballast, when he first began to take it out, smelt very bad, but he thought it was owing to the closeness of the hatches, and was not at all afraid."—*Randel's Deposition.*

" Same fact—

" The deponent saith, he heard some of the persons employed in unloading this ballast say, that it was so very offensive, they could not throw out but a few stones at a time, without being obliged to put their heads up the hatchway, to obtain a breath of fresh air."—*Helme Jun'r's Deposition.*

" But here two other difficulties present themselves. First, That some of the worst cases commenced *before* her ballast was started. Second, That the brig lay at such a distance from the house where the first case happened, as to render it morally impossible that any contagion could have been communicated, supposing her to be really embued with contagion: But let us give the objections in their own words.

" La Ruse hauled first to the navy-yard, where she lay till the 23d of June, when she moved to the wharf where the Generous Friends and the Union lay, and opposite to the house where a woman sickened on the 20th, and died on the 24th or 25th. She lay there without discharging her ballast, or even touching it, till the 25th."—*Rodgers' Letter.*

" Same side—

" It was asserted, in particular, that the disease appeared *after* the discharging of the ballast from the brig La Ruse, which was just mentioned; but it is ascertained that three or four of the worst cases commenced *before* this ballast was removed."—*Medical Repository.*

" Same side—

" The statement in question [of the three physicians] appears to be incorrect in the following parts: ' an idea is meant to be held forth that no one sickened *before* the ballast was discharged, which was not the fact."—*Walter's Letter.*

" Pretty formidable, certainly! but as it has so happened, that not one fact hitherto asserted has turned out as was stated, it naturally inclines us to hesitate throughout. Let us then go once more to our evidence; by which I mean, not the loose sayings of individuals or of officers, but the deliberate declarations of persons under the solemnity of an oath.

" Simeon Helme, of lawful age, being duly sworn, deposeth and saith, that he has lived with his family at the Wallabout since March last, as master builder of the large ship now on the stocks at Jackson's wharf; that he well remembers when the brig La Ruse came up from the quarantine ground, and hauled along side of the wharf at the navy-yard, where she discharged part of her ballast *before* the sickness broke out; that some days *after* discharging the first load of ballast, Mr. Philip Dring, son-in-law to the deponent, was taken with the yellow fever."

" Same fact—

" Simeon Helme, Jun. of lawful age, being duly sworn, saith, that he, the deponent, remembers when the brig La Ruse first came up from the quarantine ground, and hauled along side the wharf at the navy-yard, which was, according to the best of his recollection, about the twelfth of June; that a few days *afterwards*, and *before* the sickness appeared, this brig began to unload her ballast at the navy-yard."

" But, it is asserted, she lay at a great distance from the house where the first case occurred, meaning Mr. Helme's—

" It was farther asserted, that the brig in question lay *close* to the house of Mr. Helme, in which one of the most malignant cases commenced on the 20th of June: whereas there is the best evidence that this vessel lay at the navy-yard of the United States, a distance of more than 150 yards from the spot referred to, until the 23d of the month, when she moved to the wharf near Mr. Helme's house, a day or two *after* some of the malignant cases had commenced."—*Medical Repository.*

" Let us now see how much this *hundred and fifty yards* of the Medical Repository amounts to, by " actual admeasurement."

" And the deponent further saith, the said Philip Dring lived in the same family with himself, and slept in an adjoining room with his wife and child," "but that the door of the room adjoining, which was a large room of 18 by 16 feet square, was always kept open. And the deponent further saith, that this large room had a window that opened into the navy-yard, at the wharf of which the brig La Ruse lay when his son-in-law was taken sick, and within *thirty yards* of this window by admeasurement."—*Helme's Deposition.*

"But, from the following extract, it will appear that Dring constantly worked in a place still nearer the brig—

"And the deponent further saith, that Dring worked every day on the stern of a ship on the stocks within about twenty-five yards of where the La Ruse lay at the navy-yard, and used to go repeatedly to a blacksmith's shop to get iron-work, within eight, or, at most, ten yards of the brig."—*Helme's Deposition.*

"Any one, from reading the statement of the Medical Repository, or that in the Health Officer's letter, would suppose that the navy-yard and the ship-yard were distant from each other, whereas, only a fence is the line of separation; separation as to boundaries, but an air-line as to atmosphere.

"And the deponent saith, that after unloading one sloop load, for some cause, she [La Ruse] desisted, and on the 23d she moved *about her length westward* to Jackson's wharf, which is only separated from the navy-yard by a fence."—*Helme Jun'r's Deposition.*

"It is also asserted, that no person of those taken sick was on board either of the suspected vessels.

"It does not appear that a single person of those attacked with this malignant fever had been on board either of the vessels charged with the importation of it, or held any communication with them, or any thing belonging to them."—*Medical Repository.*

"Neither of them [Livingston and Arbutton, who both had the fever] had ever been on board La Ruse; Livingston had once been on board the Union, and *no other vessel.*"—*Rodgers' Letter.*

"Edward Livingston, of lawful age, being duly sworn, deposeth and saith, that on Tuesday evening, the nineteenth of June, as nearly as he can recollect, *he went on board the brig La Ruse,* then lying at the wharf, to get her boat to bring up a log that lay in the stream, and on the twentieth he was taken down, in the evening, with the yellow fever; in consequence of which, he was sent to the Marine Hospital, after being sick a week, and where, after about five weeks, he recovered."

"Lastly, it is stated—

> "It deserves also to be mentioned, that a large proportion of all the victims to this disease, and some of the earliest, were *women*, whose occupations did not lead them to the wharves, who were employed within doors."—*Medical Repository.*

"It will be seen by turning to the list of those who were attacked by the disease, the whole number was seventeen, of whom, eight only were women; of these, four died, viz. Mrs. Little, Mrs. Sherlock, Jane Johnson, and Sally Wakeman.

"But in answer to the attempt to show that the women had no communication with the brig that could account for their taking the disease, I shall now show that not only these, but all the cases that occurred, are traceable directly to one or both the vessels.

"The first set of cases were Brown, White, Livingston, Castles, Mrs. Little and Dring; of these six, all complained of the offensive smell of the bilge-water the eighteenth of June, and five were taken with the fever on the 20th, within forty-eight hours afterwards; the sixth, Dring, was seized the day after. Besides this, Simeon Helme, jun. swears that—

> He "frequently saw Mrs. Little, the woman who was first taken ill and died, down upon the wharf near where the brig La Ruse lay, and near the brig, looking for her child, which used to play about the wharf."

"On the twenty-second, Mrs. Sherlock was seized, and besides the probability that she visited the sick, (for I give it only as such, since it is only mentioned to me and is not in evidence) her husband has deposed that—

> "She frequently went to the dock of the navy-yard, where the brig La Ruse lay, to pick up chips; the rooms where his wife, three children and self resided, were large, on the second story, had the benefit of a free and pure air from all quarters, being nearly surrounded with running salt water."

"Jane Johnson, who was taken on the twenty-third, lived in the house with Mrs. Little, and nursed her. William Arbutton, who sickened on the twenty-eighth, slept in the same bed with Livingston after he was taken ill. Sally Wakeman who sickened on the twenty-ninth or thirtieth, visited the sick at both Helme's and Little's, as appears from her brother's deposition. Benjamin Rhodes, who sickened on the twenty-ninth, has deposed that "he visited the sick every day" till he was taken ill himself. George Little, Mrs. Dring, and Patty Helme, all sickened on the thirtieth; the former had attended on his sick wife, the two latter on Mr. Dring; and Hannah Helme, attacked July first, was the last person taken, and had been exposed in a similar manner. These three last, it is worthy of remark, were attacked after their removal to a place called Vinegar Hill, more than a quarter of a mile distant, S. E. and their disease is stated by the father to be yellow fever, and not dysentery, as asserted by Dr. Walter. Patrick Prosay is the only person unaccounted for. All inquiries after this man have been fruitless; all we know is, that on the twenty-eighth of June, at a meeting of the Health Committee, in answer to their inquiries about his situation, which they had by some accident just been informed of, the Resident Physician said that Patrick Prosay "was better;" and in the Medical Repository article, he is said to be a labourer who "had quitted the ship-yard and made his way into the city." Thus the public have a history of every case, and of the circumstances attending the occurrence of each; all traced up to one source. Three causes are proved to have existed, all of which, probably, operated, but either of them, if I mistake not, has appeared sufficient to account for the introduction of the epidemic, viz. the bilge-water, the spoiled beef, and the foul ballast.

"I have now finished my promised investigation; and in the course of it have presented a series of facts, which to me appear interesting, important, and conclusive."

Such was the case of the Wallabout, and such the evidence respecting it. More than seven years have elapsed since this evidence has been laid before the public, wholly and completely disproving every material fact stated in the account which first appeared in the Medical Repository; yet have not the editors of that work ever had the candour, we will say, the integrity, to correct that account, or even so much as to mention to their readers that a different one had appeared. How such behaviour, in the conductors of such a work, can be reconciled with fair-dealing towards the public, we must confess ourselves at a loss to comprehend. It was in reference to this case of the Wallabout, that we seriously asked, and now repeat the question, "What must the public think, what ought it to think of a literary work, which, in the guise of openness and truth, publishes important mistatements of material facts, and when it is afterwards convicted beyond all doubt, of having done so, continues, notwithstanding, to circulate these mistatements, and to propagate a doctrine founded upon them, most momentous in its consequences upon society?"

To return once more to the Essay under review:

> "The occurrence of similar diseases in other parts of the world, under similar circumstances, where *contagion introduced from abroad cannot possibly be suspected*, is also adverse to the doctrine of importation. In making the circuit of the globe, on the parallels of latitude nearly or exactly corresponding with our's, we pass over countries, which, from the earliest records of history, have been frequently visited with the ravages of disease. *Spain* and *Italy* afford striking examples."

The observation here made respecting the parallels of latitude, is anticipated, and completely answered, in a letter to the editors, in the first number of volume first, entitled, " Conjectures concerning the Native Climate of Pestilence, by an OBSERVER."

Dr. Miller introduces *Spain* and *Italy* as examples to show, that when the yellow fever prevailed there, " contagion introduced from abroad *could not possibly be suspected.*" Has Dr. Miller then wholly forgotten what he has himself recorded in several volumes of his own Repository? Has he forgotten the Spanish work of Dr. *D. Roque José de Oyarvide*, which he has so ingenuously reviewed, beginning thus : " Dr. Oyarvide professedly and zealously maintains the contagious nature of yellow fever, and, *like other persons who advocate the same side of the question*, either mistates facts, or reasons badly upon them." Or has he forgotten the *Report* on the subject of quarantines, made to Congress by his coadjutor, Dr. Mitchill, as preserved in the same 6th vol. where Dr. Mitchill utters the following complaint?—" The recent accounts of the severe quarantine of an hundred days, and more, imposed upon American vessels in some of the principal ports of *Spain*, must fill every friend of our commerce with regret." And yet Dr. Miller has the courage to declare, that in Spain, " contagion introduced from abroad could not possibly be even *suspected.*" Has the Doctor forgot the article in his 4th vol. facetiously entitled, " Retaliation on the importers of yellow fever," in which he informs us, that " for fear of suffering from contagion, imported from the United States, our ships are subjected to quarantine and their consequences in all the ports of Europe?" In fine, can Dr. Miller have totally forgotten the great and valuable work, entitled, "*Precis Historique de la Maladie qui a regné dans l'Andalousie en* 1800," and reviewed in his 8th vol.? It contains no less than 800 octavo pages on the yellow fever which prevailed in Cadiz and the Spanish province of Andalusia in the year 1800, and is the result of the personal investigations of three of the most eminent French physicians of the day, who were appointed as commissioners by the French government for this express purpose. In 1802 they published their discoveries, which were examined and sanctioned by the faculty, approved of by the governments of both France and Spain, and have, ever since, served as a guide to the proper authorities in the precautionary measures taken to guard against the introduction of this pestilence. "In this investigation, (says a much esteemed medical correspondent) made at a time when the disease was scarcely extinguished, and with the greatest industry, caution, and discernment, the commissioners have established the three following points:

"1. That the disease was of foreign origin, having no affinity with any of the known indigenous diseases; such as the putrid marsh or malignant bilious fevers, of the summer and autumnal seasons, so common to all the south of Europe.

"2. That it was evidently contagious: not, like an atmospherical epidemic, displaying its influence by a sudden and rapid extension, striking its objects in different and distant directions, at the same time; but attacking, in regular order and succession, individuals, families, the inhabitants of the same or adjacent streets, towns, and villages; not, like an endemic which attacks those only who have been exposed for some length of time, to some local, insalubrious, noxious source, and which vanishes with the removal or destruction of that source; but like those diseases universally known to be contagious, attacking only those who have intercourse with the infected, directly or indirectly, sparing but few in its progress, except where precautionary measures were observed against it.

"3. That, in all its symptoms and circumstances, the disease was the same as the pestilential yellow fever of the West-Indies, and of the United States."

" The commissioners, also, traced its origin distinctly and satisfactorily to an American vessel that had arrived at Cadiz from Havanna, in the preceding July, which had lost some of her crew by the fever at sea. From this vessel the infection was communicated, first, to some of the waiters and officers of the customs, who had been placed on board, who carried the disease into the city, from whence it gradually spread in almost every direction. Into what weakness, (observes the editor of the above French work) especially on medical subjects, have not men been betrayed by theoretical enthusiasm? Prejudice, passion, or the weak ambition of acquiring a name distinguished above their professional brethren, or competitors, make men, sometimes, embrace strange and extravagant opinions without due examination, which their pride or self-love forbids them ever after to *renounce.*"

Dr. Miller, in order to lessen the credit of the above work, with an air of importance, observes upon it—

> " Now, the reader of this publication ought to understand that the three professors arrived so late in the season at the sickly region, *that the distemper had disappeared with the cool weather of autumn before their arrival, and that they did not see a single case of it.*"

That it was necessary to see the disease, in order to judge whether it was yellow fever or not, might possibly be asserted with some, but not much plausibility; but that fact not being in question here, why a case of it should be actually seen, in order to enable the inquirer after its origin to judge of the applicability and the force of evidence, we have never heard, nor can we conceive: Certain it is, that many of those non-contagion lay writers quoted by the Medical Repository, with the highest applause, such as Noah Webster, Esq. and others, never saw a case of the disease ; and we have heard it questioned whether Dr. Miller's learned colleague himself ever saw a case of it. Dr. Miller, however, we observe, hopes the reader will not yield too much credit to the three physicians, because, as they only arrived just after the extinction of the disease, their statement of facts ought to be received with distrust. It is, however, fully expected that we should believe the Doctor himself, who was this side the Atlantic, and neither saw a case, nor ever had an opportunity to acquire any personal knowledge of the facts whatever. Who can sufficiently admire the modesty and consistency of this gentleman?

So much for Spain. As to Italy, where, he also asserts, no contagion from abroad could possibly be suspected, we will go no further for proof to the contrary than to the Med. Rep. in the 8th vol. of which, p. 429, we find " An extract of a letter in Leghorn, beginning thus:

> " The late fever with which we have been visited, I am persuaded, is the same as the American yellow fever. *It has been proved, beyond the shadow of doubt, that it was imported from South America,* in a ship laden with hides, which touched at Cadiz to recruit its hands, having lost several on the passage. The captain died of the fever in a short time after his arrival."

It is true, the Repository contains also other extracts of other letters, expressing a different opinion. But the above is produced here, in answer to Dr. Miller's assertion, that contagion in Spain and Italy has not even been *suspected.* We now see in his own pages, a direct contradiction to this assertion staring him in the face: we here find, that it has not only been suspected, but, if the writer deserves belief, proved.

We must now travel with him to Rome, ancient Rome, and combat him in the arena there.

As another example that, " in making the circuit of the globe, on the parallels of latitude nearly or exactly corresponding with our's, we find countries, which, from the earliest records of history, have been frequently visited with the yellow fever," the city of Rome is adduced.

> " Rome, in particular, though its elevated situation is generally salubrious, is annoyed by a marshy spot at the feet of two of its hills, along the margin of the Tiber, which has been sickly and pestilential from the origin of the city. While the streets on the hills, like Broadway and other high grounds in the city of New-York, enjoy a salubrious air, the spot of marsh just mentioned, together with a small extent of *made-ground* (for the noxiousness of *made-ground* has been felt at Rome, as well as at New-York) corresponding with the marshy spots, and vastly more extended space of *made-ground,* along the margin of the East river, has produced, from time immemorial, malignant and mortal epidemics."

In support of this statement, Dr. Miller quotes Baglivi and Lancisi, two celebrated physicians and medical historians of the 16th century, and he also quotes Ovid, always much admired as a poet, but now, for the first time, adduced as historical authority. The following lines are given to prove that the " noxiousness of *made-ground* was felt at Rome :"—

> " Hoc, ubi nunc fora sunt, udæ tenuere paludes,
> Amne reduntatis fossa madebat aquis.
> Curtius ille lacus, siccas qui sustinet aras,
> Nunc solida est tellus, sed lacus ante fuit.
> Qua Velabra solent in Circum ducere pompas,
> Nil præter salices, cassaque canna fuit."

On looking into the original, we find the poet introduces a decrepid old woman, who undertakes to narrate the important changes in the face of the country, that have taken place in her day; which brings us to the quotation before us: she recollected, she says, the time when, in the spot before them, where the courts of justice stood, there was once a large ditch or canal filled with water, which flowed into it from the Tiber; when the *Curtius Lacus*, which then was solid earth, and supports a temple for worship, was once a common lake; when the temporary artificial lanes, through which it was customary to lead solemn processions to the circus, presented nothing to the eye but willows and useless reeds. If more than this is to be found in the passage, or the context, it has escaped our research; if there is any thing that, in the most remote degree, can be supposed to relate to the "*noxiousness of made-ground*," or to *made-ground* at all, we have not been able to discover it.

Dr. Miller and his fellow-labourers on the same side have, forever, been harping on "marsh miasmata" as the cause of a vitiated atmosphere, and they persist in charging the yellow fever of our cities on this "marsh miasmata." Well, the city authority take them at their word, and they order all these marshes (which, by the way, are situated in places where no yellow fever has ever yet appeared; the Collect and Lispenard's Meadows) to be filled up; and for three years they have been filling accordingly, until, as Ovid says, "*Nunc solida est tellus, sed lacus ante fuit.*" And now the same complaint is heard against the *new made-ground*, as was heard against the former marshes; they now declare that it is the *new made-ground* which causes the yellow fever. There is also much *made-ground* on the East and North rivers. The filthy slips have been filled up with sound and solid earth; the mud of the bordering shore, which used to be left bare at low water, is left so no longer, but is covered by *new made-ground*, and neat, cleanly wharves. Against this the non-contagionists clamour louder still. It is this *new made-ground*, say they, which breeds yellow fever. In vain we point to our eastern shore, and remind them that, in 1743, that shore was mowed for sedge, in the recollection of some of our oldest inhabitants, and that, at that very time, long before *made-ground* was thought of, the yellow fever made its fatal appearance, and became dreadfully epidemical. Equally in vain we remind them that it is more than six years since the disease showed itself among us, although, during all that period *made grounds* have been constantly going on, until there are acres now to feet then; in vain we point across the East river, to the Wallabout, and tell them there are *no* made-grounds *there;* to Brooklyn, and tell them there is but a very small portion *there;* across the bay to Amboy, and tell them there is none at all *there;* still our ears are stunned with the cry against *made-grounds* and marsh exhalations. "Here is an incongruity, say we: If marsh exhalations cause pestilence, the way to meet it, and prevent those exhalations, is, surely, to cover over these marshes with a hard, dry, solid, and deep gravelly soil, is it not?" "No, says Dr. Miller, that will be *made-ground*, and Rome suffered much from the noxiousness of made-ground; vide Ovid." "But you non-contagionists, we rejoin, will not contend that the same effects are produced by two opposite causes, wet ground and dry ground?" "Certainly we do; have I not told you already, that, "*We live in a latitude of pestilence*, and our climate is only beginning its tendency to produce this terrible scourge?"

Baglivi and Lancisi are also quoted by Dr. Miller for the same purpose. We have carefully examined both these authors in the original Latin, and now are compelled to contradict Dr. Miller on the fact: we do deny, first, that either of them contain the most remote allusion to *made-ground;* and, secondly, that either of them describe any disease that can be identified with our yellow fever. They mention, indeed, fevers, which, however, they ascribe, not to dry *made-ground*, but to causes directly the contrary. "Quæcunque loca (says the former) crebris ædificiis ambiuntur, atque editiora sunt, in septentrionem atque orientem spectant, et multum à Tiberi distant, salubriora: Contra, quæ sejuncta sunt, et remota à frequentibus tectis, situque sunt humili, ac maximè in convallibus, tum propriora Tiberi, in meridiem atque occasum spectantia, minus salubriora judicantur." Is there even an allusion here to *made-ground?* So too Lancisi: "Nemo sane luctuosa funera per id temporis Romæ conspiciens, fœtoremque in vicis illis persentiens, dubius hæsit, quin causa malignarum, perniciosarumque febrium, quæ publice vagabantur, fuerit multitudo stagnantium et corruptarum aquarum, tum in scrobibus pratorum, tum in magna cloaca, atque in fossa potissimum Hadrianæ arcis." Will any one, who can read the Latin tongue, say that *made-ground* is here once mentioned or alluded to, in any manner whatever? Certainly not. But, we would ask Dr. Miller, on which authority it is, that he asserts that our yellow fever ever appeared at Rome? In the first place, no pathognomonic symptoms of the yellow fever are mentioned, and, if it were otherwise, Dr. Miller has effectually precluded himself from saying that they are the same with those which characterize the yellow fever; for he has expressly declared in the Essay before us, that the yellow fever has *no* pathognomonic symptoms. If he will turn, however, to Baglivi's chapter "*De febribus in genere*," he will find the author, in section the first, expressing himself thus: "Ante *septimum* diem in acutis, et inflammitoriis, nec purgato, nec diaphoretica vehementia dato." But before the seventh day of the yellow fever arrives, the time for exhibiting medicine, or affording relief of any sort, is for ever past. As it is hardly to be supposed that Dr. Miller has totally forgotten his Latin, what, in the name of charity, can we say for him ? Great, indeed, must be his assurance in thus venturing to quote authors in a dead language, unknown to the majority of his readers, in support of a theory which those authors never dreampt of. If Dr. Miller can reconcile his conduct with his notions of strict integrity, he must have formed his ethics in a very different school from any that we ever knew or heard of, ancient or modern.

We finish what we have to say on the subject of *made-ground*, by asking Dr. Miller how it is, that neither that part of the city known by the name of *The Collect*, surrounded as it is, and partly covered by houses, nor that known as *Lispenard's Meadows*, much of which is already built upon, and the rest in a train of being occupied with houses, although both consist entirely of *made-ground*, the former once covering a deep pond, the latter an extensive marsh, how is it, we ask, that the yellow fever has never first made its appearance in either of these places, nor even in their vicinity ? Till Doctor Miller can better reconcile theory with fact, he may certainly spare himself the trouble to caution the people of this city against the noxiousness of *made-ground*, as a cause of yellow fever.

" The source of mistake (he says) on the subject of importation, seems to consist in not distinguishing *a febrile poison generated by heat and filth in a vessel, from contagion taken up in a foreign port, and successively communicated from one person to another.*" " The construction of vessels disposes them to the collection and retention of filth, and renders cleansing and ventilation extremely difficult. The qualities of cargoes and provisions, the inattention of seamen to cleanliness, the crowded manner in which they live, &c. &c. render shipping the most dangerous of human habitations. It is no wonder, therefore, they should become unhealthy, when they pass into warm latitudes, or *lie in our harbours in the hot season.*"

Unquestionably the market-boats, which fill our slips during the summer, are the filthiest of all sailing "human habitations;" yet, if the resident physician should go aboard, and assure the proprietors that they bred the yellow fever in them, we suspect he would scarcely escape being heartily laughed at. But, pray what became of these filthy vessels during the fifty years preceding 1795? But to make the answer short, we call upon Dr. Miller, or his colleague, to mention a single instance, a single one, where the yellow fever has ever shown itself on board of any vessel lying in any harbour of the United States, and not recently from a port within the tropics. We confidently defy him to point out a case. When he does so, and substantiates what he says, then shall we feel compelled to abandon all that we have ever contended for.

> "The inefficacy of all the various modifications of quarantine laws hitherto devised in the United States, confirms our disbelief of contagion. In the port of New-York, as well as that of Philadelphia, a rigid system of quarantine has been in operation for many years; and *there is no doubt of its having been vigilantly and faithfully executed.*"

Is it indeed so? Have the quarantine laws been hitherto inefficacious? Have they always been vigilantly and faithfully executed? This Review, then, has been written to very little purpose. We are egregiously mistaken, however, if it has not appeared, in the course of our researches, that the exemption of this city, for several years past, has been solely owing to a better modification of our quarantine law, which was amended in 1804, and a better execution of it. We are mistaken, too, if it has not been equally made to appear, that the misfortunes of the Wallabout, and of Brooklyn were wholly owing to a want of "a vigilant and faithful execution" of the quarantine laws. But what, we ask, could be expected from the vigilance and faithfulness of a Health Officer who does not believe the yellow fever is either an importable or a contagious disease? Would it be reasonable to expect a man to be active and vigilant in preventing the spreading of a fire who did not believe that a fire existed, or could communicate itself? Ought it rationally to be expected that a physician, though exalted into a Health Officer, could vigilantly execute a law, providing against the introduction of a pestilential yellow fever, who does not know the disease when he sees it, from an intermittent?* Or that another was capable of executing satisfactorily the duties of Resident Physician, for the purpose of ordering out of the city, the first case of yellow fever that makes its appearance, who holds the same theories as the Health Officer, and who, also, does not know the disease from a common cold?† We say, boldly and fearlessly, say, because we feel it to be our duty to do so, that to commit the execution of our health laws to gentlemen thus professing a theory directly at variance with that which constitutes the basis on which those laws are founded, is a gross absurdity, and no better than a mockery of the community. Political considerations may be allowed weight in appointments to office on ordinary occasions, but when they are permitted to outweigh every other, in cases where the lives of thousands, and almost the existence of our commercial cities, are at stake, it is an evil most deeply to be deplored, and its authors deserve the bitterest reproaches.

"Under the influence of this phantom of contagion, (says Dr. Miller) we have instructed the Europeans to enact laws and regulations, sanctioned by the highest penalties, which retard and oppress our commerce, and subject our shipping in their ports to the most grievous detention."

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* Vide page 298.

† Vide page 280. 301.

If Dr. Miller could show that those Europeans stand ready to relinquish their quarantine laws and regulations, as soon as he convinces us that "contagion is but a phantom," and the yellow fever "a misfortune limited to ourselves, and cannot endanger their safety;" if, we repeat, he could satisfy us that they will, in complaisance to us, repeal their quarantine laws, the moment they hear of our repealing our quarantine laws, there would be something in his argument. Or, at least, there might be something, were it not for the appearance of the following passage in the same Essay:

> "In rejecting the doctrine of importation the benefits of quarantine are, by no means, intended to be undervalued. The generation of pestilential diseases in foul vessels is undeniable." "There ought undoubtedly to be some mode of ascertaining whether a vessel may be safely approached by people in business, or whether she may be likely to diffuse pestilential vapours among all who come within their reach. Quarantine is, also, one of the most humane regulations in favour of seamen. It interposes between them and the carelessness or cruelty of their commander, and make it his interest to preserve their lives and health."

If the doctor is sincere in this, quarantine laws are highly valuable in themselves, and in all parts of the world, without reference to contagion, or to yellow fever, or to the United States. "The generation of pestilential disease in foul vessels (he declares) is undeniable; they are a frequent source of malignant sickness," and "quarantine is one of the most humane regulations as to seamen," &c. Now then, we should be glad to know what the Doctor really means? He charges the advocates of importation and contagion with being the cause of quarantine regulations in foreign countries, "which retard and oppress commerce, and subject our shipping to grievous detention," in one page, while in the next he declares, that quarantine regulations are, by no means, intended to be undervalued; and gives several reasons why they are not to be dispensed with. As we have always thought that the main design of Dr. Miller's Essay was to persuade the public that quarantine regulations were highly injurious to commerce, and ought to be for ever abandoned, we were somewhat at a loss to find him thus a strenuous advocate for their continuance. Nor could we have acquitted him of a palpable inconsistency, had we not fortunately recollected there was still one powerful reason more, which Dr. Miller's modesty has kept back, viz. "because *my brother Rodgers is Health Officer, and I am Resident Physician.*"

Having reluctantly laid so heavy a claim on the reader's patience in this attempt to expose the errors of fact, and the false reasonings connected with them, that so eminently distinguish an Essay, which we have always considered one of the most mischievous tendency, our Review, at length, approaches its close. Thinking we cannot do better than to finish by reminding the reader of those leading opinions on the subject that has so long occupied our attention, we beg permission to repeat what we have once said in an early number, by way of explaining what we mean by the contagiousness of yellow fever. By the contagiousness of the yellow fever then, we mean the communication of it, *under certain peculiar circumstances*, from one person to another, or from things to persons. By *communication*, however, we do not mean, first, that it is to be conveyed only by touch, like the itch or syphilis; nor, secondly, by touch and through the medium of a pure atmosphere, like the small pox and measles; but, thirdly, we mean that it is conveyed from a diseased person to those in health, or from infected materials to persons in health, under circumstances of an atmosphere of peculiar impurity, and under such circumstances only. "The yellow fever, like typhus, jail, ship, hospital or lake fever, and dysentery, is a disease *only* communicable through the medium of an impure atmosphere ; in a pure air, in large and well ventilated apartments, when the dress of the patient is frequently changed, all excrementitious discharges immediately removed, and attention paid to cleanliness in general, these diseases are not communicated, or very rarely so, from one to another. But in an impure air, rendered so by the (presence of a foul or infected ship) decomposition of animal and vegetable substances, such as takes place in low marshy countries, or by concentrated human effluvia, as in camps, jails, hospitals, or on ship-board, they are rendered not only extremely malignant and mortal in themselves, but become communicable to others who approach the sick, or breathe the same atmosphere which has become assimilated to the poison introduced, insomuch that the same specific disease is communicated, whether it be the plague, yellow fever, typhus, or dysentery."* But neither is it every kind of impure atmosphere that will form a medium for conveying this disease; but it is that kind of impurity which has become "assimilated to the poison introduced by the disease." Hence, therefore, a single person may be ill of the yellow fever in even an uncleanly lodging, but of which the air has not become *assimilated* to the poison of the disease, and if care is taken to change the patient's dress, remove excrementitious discharges, and in case of death to destroy the bedding and purify the apartments, the disease may not be communicated to any others in the house. With these explanations and qualifications we adhere to the opinions we have long since formed, which we have more than once published, and which we have never re-examined without increased confidence in their soundness. Should we be correct in those opinions, it follows, that the yellow fever is a contagious disease, and that, instead of looking for its origin in our "marshes or made grounds," or in "a peculiar constitution of our atmosphere," or in our "latitude of pestilence," or in the "septic acid engendered by us, [unhappy Americans !] within our own alimentary canals,"* we shall invariably find it to arise from vessels arriving here from infected places abroad, and that, to prevent this terrible scourge from ever again appearing here, and desolating our city, nothing is wanting but a system of good and wholesome quarantine laws, faithfully and vigilantly executed. Give us this, and we have no hesitation in saying that the city of New-York will be as secure from yellow fever, as the city of Albany or the village of Utica.

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* Hosack on Contagion. Vide Edinburgh Medical and Surgical Journal, for October, 1809.

To conclude. It is probable that some of those who have done us the honour to peruse this Review, may have thought we have not always restrained our feelings of indignation as much as we might have done, without any deduction from the weight of the argument. To such, if such there are, we offer in answer, the following passage from a controversial work of a celebrated English divine.

"Perhaps I have used a quickness of language by which my more *gentle* reader may be hurt in his feelings. But let the gentlest of my readers reflect, that such a manner is unavoidable, from the nature and circumstances of controversy. All controversy is, in the literary world, what all war is in the political, an evil necessarily incident to the wretchedness of our present state. In war such acts are lawful, as would be criminal out of it. Blows and wounds *then* become licensed outrages. Just so it is in controversy. A tartness of remark, a harshness of reprehension, and a provoking pointedness of triumph, are all as lawful as blows and wounds in war. War cannot subsist without these. Controversy cannot without those. And to fight fairly without wounding, or to controvert fairly without hurting, are equally impossible."

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* Vide Med. Rep. v. 6. p. 424.

An apology may, possibly, be expected of us for this Review, after the very able Letter of Dr. Chisholm to Dr. Haygarth, on the same subject, "*in order to correct the pernicious doctrine promulgated by Dr. Edward Miller*," &c. It was not that we had the vanity to think that we could add to the arguments of Dr. Chisholm; never for a moment did we suppose that this great man and vigorous controversialist, needed such assistance as our feeble pen could afford—"*non tali auxilio*"—but the superior advantage we possess in residing amidst the principal scenes of action, enabling us to controvert many important statements in point of fact, which he was compelled to take for granted, or combat upon conjecture, we felt impelled to glean after him, proud of such a leader in this great cause of truth and humanity, though too conscious of the *haud passibus æquis* with which we must follow him. Far from being insensible to the distinguished merits of this celebrated man, we see the master's hand conspicuous in every thing he touches. An erudition the most profound, a logic correct and luminous, conveyed in a style elegant, nervous and classical, signalize and adorn the pages of this eminent physician, this fine scholar and accomplished gentleman; and if such qualifications, under the constant guidance of a nice sense of honour, which, while it renders its possessor sensibly alive to every indignity, preserves him from the smallest trespass on decorum, can insure lasting fame, the name of Chisholm shall not only wear the honours of the age in which he lives, but his laurels shall bloom perennial.

Without meaning to be understood as uttering the language of triumph, we now seriously call upon Dr. Miller to come forth and defend his elaborate Essay against the foregoing Review; or if the doctor himself has neither leisure nor inclination for such an undertaking, we trust that the reviewers,* who say in their last number of the "New-York Medical and Philosophical Review," they "are so perfectly satisfied with Dr. Miller's Essay, that nothing, as they apprehend, more satisfactory can be offered in the present state of our knowledge," will step forth in their own defence. We should be happy to meet either or all of these gentlemen in the field of fair controversy. The gauntlet is thrown for any who choose to take it up.

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* Drs. M'Nevin and Smith.

ART. II. *An Inaugural Dissertation on* INSANITY: *submitted to the public examination of the trustees of the College of Physicians and Surgeons in the state of New-York, Samuel Bard,* M. D. *President, for the degree of Doctor of Medicine, on the* 14*th of May,* 1811. *By* THEODRIC ROMEYN BECK, A. M. *Licentiate in Medicine of the Medical Society of the County of New-York.* New-York. Seymour. 1811. 8vo. pp. 40.

An Inaugural Dissertation on the Use of the DIGITALIS PURPUREA: *submitted, &c. By* THOMAS EDWARD STEELL, *of New-Jersey.* New-York. T. & J. Swords. 1811. pp. 38.

The present performances are the first that have been published for the purpose of obtaining the degree of doctor in medicine, by the graduates of the College of Physicians and Surgeons in this city. As exercises of this kind, we open them with peculiar pleasure, as auspicious of those great and lasting advantages which are likely to result to the community from our youth having passed through a regular course of education in this new and highly promising institution.

It would have been no easy matter to have chosen a subject better calculated for the exercise of professional knowledge, or one of more general interest, than that which Dr. Beck has selected on the present occasion. It has indeed attracted the attention of the learned and the philosophic in almost every age and nation, and numerous are the volumes that have been published on the nature and cure of mental derangement. It must, however, be admitted, after all that has been done, that we have not yet arrived at those satisfactory conclusions on the peculiar character and seat of this disease which are necessary to insure a judicious and successful practice. Two causes may probably be assigned for this circumstance; the extremely intricate nature of the disease, and a want of that close and accurate observation of the phenomena by which it is characterized. We are consequently deficient in the number of our facts on this subject, and, in their stead, have had recourse to speculations no less inapplicable to the faculties of the mind than to the ordinary functions of our system. When, however, we shall have reversed this order of investigation, and shall have amassed a larger collection of facts, we think the expectation by no means groundless, that we shall be able to understand, with equal certainty, the affections of the mind as well as those of the body. Entertaining these opinions, we are peculiarly pleased with every new attempt, either to add to the number of facts already extant, or to give somewhat of arrangement to those we at present possess. It is under this latter class of publications that the exercise now before us is to be considered. The author informs us, that he has had few opportunities of viewing this disease, and that his information is derived chiefly from books; but, notwithstanding this declaration, we observe with pleasure, that in the large amount of interesting matter which he has collected, from a great variety of sources, both ancient and modern, he has scattered some new and interesting facts, founded on authorities which cannot be called in question.

After having noticed the faculties and powers of the mind under two heads, the *understanding* and the *will*, and taken into consideration their subordinate divisions, and the several affections to which they are particularly liable, Dr. Beck enters upon the history of insanity, and of the symptoms by which it is distinguished. Upon the systems of several late eminent writers, particularly those of Arnold, Crichton, and Pinel, in which this disease has been divided into a great number of species, he judiciously remarks, that these divisions have been found as useless in practice as they are difficult to be distinguished in theory.

> "The idea of their being one and the same disease, in different forms, according to the temperament and constitution of the patient seems not unreasonable. The facts of the very frequent conversion of one into the other; of numbers whose lives are passed between furious and melancholic paroxysms, and under both retaining the same set of ideas;* and of the same remedies, with little variation, being found useful for both, materially strengthen this supposition. Mr. Haslam, whose opportunities of viewing the disease in all its varied forms, have been very great, observes, "In both there is equal derangement, and on dissection, the state of the brain does not show any appearances peculiar to melancholia."† As, however, the symptoms which are immediately presented to our view appear so diametrically opposite, it will be proper to retain the distinction. Insanity may be divided into *melancholy*, *mania*, and *idiotism*. The first is characterized by an anxious look, love of solitude, and excess of fear. The second by hurried action, loquacity, and furious raving. The last, although frequently the termination of the previous ones, is in many instances an idiopathic disease."‡—p. 15.

The remote causes of this disease, both bodily and mental, are next detailed. Among the former are enumerated such as are generally found in practical writers; among the latter, according to our author, the principal one is a wrong system of early education, which, while it injures the body, gives free scope to the passions, and "does not discipline the intellect." The more remarkable appearances, as they are presented on dissection, are next given, on the authorities of Morgagni, Greding, and Haslam; they are, however, considered by our author, extremely fallacious in guiding us in our opinion of the seat and cause of the disorder. As to the cure of insanity, when it arises from mental causes, the method recommended by Dr. Beck is, what is generally denominated by the most eminent writers, *moral management.* As to remedies, strictly so called, a general abstract of them, from the most distinguished writers, is next given. "A comparison of the ancients with the moderns, in this particular, (says our author, after an extensive examination) will fully prove, that but few important improvements have been made by the latter." p. 29.

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* Haslam on Madness, p. 33. † Ditto, p. 37.

‡ As in the Cretins of Switzerland.

We are much pleased to see a portion of the present exercise devoted to medical jurisprudence and police, so far as they relate to lunacy. This branch of medical learning, considering its great importance, is indeed much neglected in our country. The appendix contains an account of the several lunatic asylums of England, France, Austria, Prussia, Spain, and Switzerland; and of the New-York Hospital and Asylum of this city.

WE do not think that Dr. Steell has been very fortunate in the choice of his subject, or very happy in the treatment of it. The virtues of the digitalis purpurea, since the time of its introduction in the treatment of dropsical diseases by Dr. Withering in 1775, has been a fruitful source of the most discordant opinions among medical men; some contending that it possesses the properties of a stimulant, others, those of a sedative; some maintaining that in its primary operation upon the system it exhibits the symptoms characteristic of a powerful excitant, and others again declaring that these effects are confined solely to its secondary operation. This diversity of opinion, as to its peculiar operation, has led to as great a contrariety of sentiment with regard to its employment in certain diseases. To have entered, therefore, upon the consideration of a subject like the present, with the view of establishing certain fixed principles, it would have been proper for the author impartially to have examined the doctrines of previous writers, and to have investigated on what grounds they have founded their respective conclusions; and, it was also essentially necessary that he should have depended upon well substantiated facts and experiments, as the basis on which to found his own. Our author, however, has not displayed that research we could have wished, and what, indeed, we expected. He has had recourse principally to the performances of Dr. Withering, and the inaugural exercise of Dr. Moore; but the important productions of Dr. Hamilton and Dr. Ferriar, expressly on this subject, and the late work of Dr. Sanders on Consumption; besides several others, equally interesting, appear to have been altogether overlooked by him. In the place "of well authenticated facts, or of experiments," from Dr. S. we are presented with a selection of those made by Dr. Moore.*

Speaking of the effects of digitalis and of opium upon the human system, he remarks,

> "The want of analogy between these two articles of the materia medica, is still more evident by what follows. Opium cannot be

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* See Dr. Caldwell's Collection of Thesis, for 1805.

> used in the cure of inflammatory diseases until the febrile symptoms have subsided, and then in many cases it is unnecessary; but where it is necessary, it acts as a cordial in reviving the spirits and giving strength. Digitalis may be given with a direct [directly] contrary effect. It will reduce febrile excitement, and is dangerous in the debility of convalescents; for though it at first increases the number of arterial pulsations, it afterwards diminishes them in a greater ratio than the increase, according to time. A parallel of this kind might be lengthened, if it would lead to the desired certainty of the operation of digitalis; but I shall proceed to a *less diffuse* consideration of the subject." p. 12.

After a botanical description of the plant, extracted from Dr. Woodvill's excellent work on Medical Botany, and a section devoted to a consideration of "the assignable qualities of digitalis," taken chiefly from the Dispensatory of Dr. Coxe, follow some judicious observations on the different preparations in which this medicine is employed. We are next presented with "certain deductions from experiments on digitalis."

> "I was about to institute a set of experiments (says he) for the purpose of ascertaining the point, [its effects on the pulse] when some already made, occurred to me, which will verify my ideas on the subject."

We are accordingly favoured with an *analysis* of Dr. Moore's experiments, which are now given with the twofold view of enabling our author to draw conclusions directly the reverse of those which Dr. Moore mentions, and to show that he (Dr. M.) has been led into an error, in order to confirm the opinion of his professor, Dr. Barton, viz. that digitalis is a stimulant.

The conclusions which Dr. S. believes to be correct, are, that digitalis has a sudden effect in elevating the pulse; that the depression which follows may have a greater effect, in as much as it is in a greater ratio ; that its use may be extended to all diseases where there is a high febrile excitement, and where the pulse requires reduction in the number of its pulsations, or in tension or hardness. The diseases in which digitalis is accordingly recommended are, pneumonia, rheumatism, hæmoptysis, phthisis pulmonalis, hydrocephalus, hydrothorax, anasarca, and ascites. In further confirmation of the doctrine he has espoused, Dr. S. has added several original cases illustrative of the principles he has attempted to maintain.

DOMESTIC INTELLIGENCE.

Original Letter from Dr. FRANKLIN *to Dr.* COLDEN.

The following original letter, written by the late Dr. Benjamin Franklin, and addressed to Cadwallader Colden, Esq. formerly lieutenant-governor of New-York, has been politely presented to the editors, for publication, by C. D. Colden, Esq. of this city. This letter, it appears, was accompanied with the doctor's essay, containing a new theory of the nature of thunder and lightning; a theory which was confirmed by actual experiments, instituted by the doctor himself, about two years after the date of the present letter, and which is universally considered one of the most brilliant and important discoveries that adorns the history of the human mind. To those conversant with this science, it need scarcely be mentioned, that while the honour of having first made the distinction between the *plus* and *minus*, or the *positive* and *negative* states of electricity, has, by the English, generally been given to their countryman, Dr. afterwards Sir William Watson, an equally large portion of the philosophic world have, without hesitation, bestowed the same honour on Dr. Franklin. The amiable biographer of the latter part of the doctor's life, the late Dr. Henry Stuber, seems to have considered the subject as conclusive in favour of Dr. Franklin, as Watson's paper is dated January 21, 1748, and Franklin's, July 11, 1747, several months prior. Dr. Miller, however, in his valuable Retrospect of the Eighteenth Century, vol. 1, p. 25, remarks, that this distinction had been suggested by Dr. Watson before it was proposed by

Dr. Franklin, but without producing any authorities in confirmation. What is the nature of the allusion made in the first part of the doctor's letter, now published, or how far the claims of Sir William Watson are invalidated by the doctor's own assertion, when he says, "something has been taken by Mr. Watson," we shall not at present undertake to declare.—Ed.

Philadelphia, June 28, 1750.

Sir,

I wrote a line to you last post, and sent you some electrical observations and experiments. You formerly had those papers of mine, out of which something has been taken by Mr. Watson, and inserted in the transactions. If you have forgot the contents of those papers, I am afraid some things in that I last sent you will be hardly understood, as they depend on what went before. I send you herewith, my essay towards a new hypothesis of the cause and effects of lightning, &c. of which you may remember some hints in my first electrical minutes. I sent this essay above a twelvemonth since to Dr. Mitchel in London, and have since heard nothing of it, which makes me doubt of its getting to hand. In some late experiments, I have not only frequently fired unwarmed spirits by the electrical stroke, but have even melted small quantities of copper, silver, and gold, and not only melted, but vitrified them, so as to incorporate them with common glass; and this without any sensible heat, which strengthens my supposition, that the melting of metals by lightning may be a cold fusion. Of these experiments, I shall shortly write a particular account. I wrote to Mr. Collinson, on reading in the transactions the accounts from Italy and Germany, of giving purges, transferring odours, &c. with the electrical effluvia, that I was persuaded they were not true. He since informs me, that Abbe Nollet, of Paris, who had tried the experiments without success, was lately at the pains to make a journey to Turin, Bologna, and Venice, to inquire into the facts, and see the experiments repeated, imagining they had there some knacks of operating that he was unacquainted with; but, to his great disappointment, found little or no satisfaction; the gentlemen there having been too premature in publishing their imaginations and expectations for real experiments. Please to return me the papers when you have perused them.

My good old friend, Mr. Logan, being about three months since struck with a palsy, continues speechless, though he knows people, and seems in some degree to retain his memory and understanding. I fear he will not recover. Mr. Kalm* is gone towards Canada again, and Mr. Evans is about to take a journey to Lake Erie, which he intends next week. Mr. Bertram continues well and hearty. I thank you for what you write concerning celestial observations. We are going on with our building for the academy, and propose to have an observatory on the top; and, as we shall have a mathematical professor, I doubt not but we shall soon be able to send you some observations accurately made.

I am, with great esteem and respect,
Sir, your most obliged humble servant,
B. FRANKLIN.

P. S. If you think it would be agreeable to Mr. Alexander, or any other friend in New-York, to peruse these electrical papers, you may return them to me through his hands.

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* Author of the Travels in America, 3 vols. 8vo.—Ed.

Interesting information relative to the Diseases of London, extracted from a letter of John Coackley Lettsom, M. D. L. L. D. F. R. S. &c. &c. *addressed to Dr. David Hosack; dated London, July 17th,* 1811.

With respect to the diseases of London, considerable revolutions have appeared. We have not of late years had any extensive epidemics, and the typhus fever rarely occurs; indeed, from various causes, too extensive to describe in a letter, as personal luxury, cleanliness, and ventilation of houses, universal pavement, access of pure water into every habitation, opening and widening of narrow streets, the flowing of the river Thames, vaccination, and improved medical practice, the general comforts of the poor, and various causes, have contributed, for twenty years past, to increase the births and diminish the deaths, in such a proportion, as to give an increased population of sixty-four thousand more than in the twenty preceding years. The deaths alone have diminished about twelve hundred a year, the increase of births about fifteen hundred; so that this metropolis, containing one million of inhabitants, is, I conceive, the healthiest city in the world; and so successful the medical practice, that, upon an average, one only in every thirty-two patients dies.

Whilst the phthisis pulmonalis is rapidly increasing in America, and in the European continent, it is diminishing here. The croup is less fatal, in consequence of the immediate and free use of the lancet, and of leeches, with purgatives, than heretofore; nor is the angina scarlatina either so frequent or so fatal. The typhus is almost extinct, and the cholera morbus is unfrequent; and, as far as my experience extends, the syphilis is milder, or easier cured; and, lately, such has been the prolongation of health and life, as to lessen the premiums of insurance considerably. With these sources of population, there are seldom fewer than five thousand houses building, and inhabited almost before completed; for the population cannot increase less than five thousand a year, whilst the rents of houses are lately doubled.

Interesting Remarks on the Climate of GEORGIA, *in a Letter from the venerable* HENRY ELLIS, Esq. *late Governor of that State,* F. R. S. &c. *dated, Savannah, July* 17, 1758. *Communicated to the Editors by* JOHN LE CONTE, Esq.

DEAR SIR,

Though some weeks have passed since I wrote you, yet so little alteration has happened in the state of our affairs, that nothing occurs to me, relative to them, worth committing to paper. This, indeed, I need not regret, as one cannot sit down to any thing that requires much application, but with extreme reluctance; for such is the debilitating quality of our violent heats in this season, that an inexpressible languor enervates every faculty, and renders even the thought of exercising them painful.

It is now about three o'clock; the sun bears nearly S. W. and I am writing in a piazza, open at each end, on the north-east side of my house, perfectly in the shade; a small breeze at S. E. blows freely through it; no buildings are nearer, to reflect the heat, than sixty yards; yet in a thermometer hanging by me, made by Mr. Bird, and compared by the late Mr. George Graham, with an approved one of his own, the mercury stands at 102.

Twice it has risen this summer to the same height, viz. on the 28th of June, and the 11th of July. Several times it has been at 100, and for many days successively at 98; and did not in the nights sink below 89. I think it highly probable, that the inhabitants of this place breathe a hotter air than any other people on the face of the earth. The greatest heat we had last year was but 94, and that but once; from 84 to 90 were the usual variations; but this is reckoned an extraordinary hot summer. The weatherwise of this country say it forebodes a hurricane; for it has always been remarked, that these tempests have been preceded by continual and uncommon heats. I must acquaint you, however, that the heats we are subject to here, are more intense than in any other parts of the province, the town of Savannah being situate upon a sandy eminence, and sheltered all around with high woods. The people actually breathe so hot an air as I describe; yet this very spot, from its height and dryness, is reckoned equally healthy with any other in the province.

I have frequently walked an hundred yards under an umbrella, with a thermometer suspended from it by a thread, to the height of my nostrils, when the mercury has risen to 105, which is prodigious. At the same time I have confined this instrument close to the hottest part of my body, and have been astonished to observe, that it has subsided several degrees. Indeed, I never could raise the mercury above 97 with the heat of my body.

You know, dear sir, that I have traversed a great part of this globe, not without giving some attention to the peculiarities of each climate; and I can fairly pronounce, that I never felt such heats any where as in Georgia.

I know experiments on this subject are extremely liable to error; but I presume I cannot now be mistaken, either in the goodness of the instrument, or in the fairness of the trials, which I have repeatedly made with it. The same thermometer I have had twice in the equatorial parts of Africa; as often at Jamaica, and the West-India Islands; and, upon examination of my journals, I do not find that the quicksilver ever rose in those parts above the 87th degree, and to that seldom; its general station was between the 79th and 86th degree; and yet I think I have felt those degrees, with a moist air, more disagreeable than what I now feel.

In my relation of the late expedition to the north-west, if I recollect right, I have observed, that all the changes and variety of weather, that happen in the temperate zone, throughout the year, may be experienced at Hudson's-Bay settlements in twenty-four hours. But I may now extend this observation; for in my cellar the thermometer stands at 81, in the next story at 102, and in the upper one at 105, yet these heats, violent as they are, would be tolerable, but for the sudden changes that succeed them. On the 10th of December last, the mercury was at 86; on the 11th it was so low as 38 of the same instrument. What havoc must this make with an European constitution? Nevertheless, but few people die here out of the ordinary course; though indeed, one can scarce call it living, merely to breathe, and trail about a vigourless body; yet such is generally our condition, from the middle of June to the middle of September.

Dear sir, yours most affectionately,

HENRY ELLIS.

Observations on the Weather of the City of New-York, for the months of October, November, and December, 1811.

OCTOBER.

The weather for the greater part of the month of October was remarkable for its clemency, particularly for the first ten days; being generally clear, and accompanied with gentle showers, with wind from the S. and S. W. On the 13th it became cloudy: on the 14th overcast, when there fell a small quantity of rain; wind N. E. An additional quantity of rain fell on the 15th and 16th: thermometer about 68. On the 20th there was more rain, accompanied with a strong westerly wind, at which time the mercury stood as low as 50. On the 22d the wind again changed to the N. E. and was soon followed by a great quantity of rain. The remaining days were not unfrequently either cloudy or overcast, and occasionally small quantities of rain fell.

NOVEMBER.

The weather of this month was particularly distinguished for its uniform mildness for the season, except that of the 26th and 27th days. There were, however, several days, in which the atmosphere was either cloudy or overcast, and some in which we had small quantities of rain: the ordinary height of the mercury was about 50. But on the 26th, and on the succeeding day, it stood somewhat below the freezing point at 7 A. M.: at 3 P. M. on the 26th, at 34: on the 27th, at 40: at 7 P. M. on the 26th, at 29; and on the 27th, at 40. On the night of the 30th a great quantity of rain fell.

DECEMBER.

A great part of December was little less remarkable for its uniform temperature than the preceding month; the thermometer generally being from 45 to 52, at 3 P. M. wind from the S. or S. W. On the morning of the 13th the weather was overcast, and on the afternoon of the same day we had a small quantity of snow. On the 15th thermom. stood at 7 A. M. at 25, at 3 P. M. at 31, and at 7 P. M. at 32. On the 17th and 18th we had frequent falls of rain, and in considerable quantities. On the 21st another light fall of snow; thermom. at 3 P. M. at 37. On the 21st, which was the coldest day in this month, a great quantity of snow fell, accompanied with a very strong wind from the N. and N. W.; thermom. at 7 A. M. at 15, at 3 P. M. at 13, and at 7 P. M. at 10. The remaining days of December were clear and cold; generally with high wind from the N. W.

Observations on the Diseases of New-York, for the months of October, November, and December, 1811.

The diseases of October, November, and December, as is usual at this season of the year, are chiefly to be ascribed to the suppression of the natural excretions of the system, the effects of exposure to cold, and the sudden vicissitudes of the weather, which occur at the approach of winter.

Diseases connected with plethora of the system, and partaking of an inflammatory character, were accordingly among the most prevalent complaints of the last three months; some cases of intermitting, remitting, and typhus fevers were occasionally met with; but for the most part they gave place to *catarrh*, *croup*, *rheumatism*, *pneumonia*, *phthisis pulmonalis*, and other inflammatory affections; but some other diseases of a more formidable nature also occasionally presented themselves in our practice, viz. *hæmorrhage from the lungs*, *apoplexy*, and *an-*

gina pectoris. The first of those diseases in most cases terminated successfully, by the free and repeated use of the lancet, blisters to the chest, occasional anodynes, and small doses of saline and antimonial medicines; in one case, attended with a very formidable and repeated discharge of blood, the complaint was arrested, after various other means had been employed in vain, by the nauseating effects of small doses of ipecacuanha repeatedly administered. Upon the subject of *apoplexy*, we have at present nothing to add to the remarks contained in two preceding numbers of this work. The last mentioned complaint, *angina pectoris*, has, upon former occasions, frequently been met with by the writer of this article: but two cases have more particularly arrested his attention during the last month, and which were attended with very alarming symptoms: both cases, however, were happily relieved by the use of æther, volatile alkali, and the spirits of lavender, administered during the continuance of the more alarming symptoms, (viz. pain under the sternum, spasm, palpitation of the heart, and coldness of the extremities, which, for the most part, characterize the paroxysm of the disease;) and when these had subsided, by copious blood-letting, active cathartics, and other evacuants calculated to diminish the fulness of the system, which the writer has generally remarked as the attendant upon this disorder. Indeed, from the history of the cases related by Dr. Heberden,* Dr. Haygarth,† Dr. Wall,‡ Dr. Macbride,§ Dr. Darwin,¶ and others,** the season of the year, time of life, and habit of body, in which this complaint occurs, he is also induced to consider it as most generally proceeding from plethora of the blood vessels, more especially from a disproportionate accumulation in *the heart and larger arteries;* upon this principle, he has proceeded in the treatment of this distressing and dangerous disease, and hitherto with success: among his patients is a physician, who has suffered repeated attacks of this complaint, and who has uniformly been relieved by the remedies above enumerated. Upon some other occasion the writer proposes to detail the grounds upon which he has taken this view of the subject, instead of adopting the opinions of those who ascribe angina pectoris to *spasm*, *accumulation of fat*, *ossification of the valves of the heart*, or the more recent opinion of Dr. Parry, who ascribes it to an *ossification of the coronary arteries* of that organ.

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* Medical Transactions, vol. ii.

† Medical Transactions, vol. iii.

‡ Medical Transactions, vol. iii.

§ Medical Observ. and Enquir. vol. vi.

¶ Zoonomia, vol. iv.

** Medical and Physical Journal, vol. vi.

RECENT AMERICAN PUBLICATIONS.

Observations on Croup or Hives; addressed in a letter to A. R. Delile, M. D. Physician in Paris, Member of the Institute of Egypt, &c. &c. By David Hosack, M. D Professor of the Theory and Practice of Physic and Clinical Medicine in the University of the State of New-York. New-York. 8vo. C. S. Van Winkle.

An Inaugural Dissertation on Mercury: embracing its Medical History, Curative Action, and Abuse in Certain Diseases, submitted to the public examination of the Trustees of the College of Physicians and Surgeons in the State of New-York, (Samuel Bard, M. D. President) for the degree of Doctor in Medicine, on the 14th of May, 1811. By John W. Francis, A. B. Vice-President of the Medical and Surgical Society of the University of New-York. New-York. 8vo. C. S. Van Winkle.

The Maternal Physician: a Treatise on the Nature and Management of Infants, from the birth until two years old, being the result of sixteen years experience in the Nursery. Illustrated by extracts from the most approved medical authors. By an American Matron. New-York. 12mo. I. Riley.

Introduction to Greek Prosody: in three parts. With an Appendix on the Metres of Horace, adapted to the use of beginners. By P. Wilson, L. L. D. Professor of Greek and Latin Languages, &c. in Columbia College. New-York. 12mo. T. & J. Swords.

The American Review of History and Politics, and General Repository of Literature and State Papers. No. 4, for October, 1811. Philadelphia. 8vo. Nichols & Co.

Communications of the Medical Society of Connecticut. No. 1, Vol. I. New-Haven. 8vo. Sydney Press.

Observations on the Changes of the Air, and the Concomitant Epidemical Diseases of the Island of Barbadoes: to which is added, a Treatise on the Putrid Bilious Fever, commonly called the Yellow Fever, and such other Diseases as are indigenous or endemical in the West-India Islands, or in the torrid zone. By William Hillary, M. D. With Notes, by Benjamin Rush, M. D. Professor of the Institutes and Practice of Medicine in the University of Pennsylvania. Philadelphia. T. & B. Kite.

The Botanist: being the botanical part of a Course of Lectures on Natural History, delivered in the University at Cambridge, together with a discourse on the Principle of Vitality. By Benjamin Waterhouse, M. D. &c. &c.

A Commentary and Review of Montesquieu's Spirit of Laws. Prepared for the press from the original manuscript in the hands of the Publisher. To which are annexed, Observations on the thirty-first Book, by the late M. Condorcet; and two Letters of Helvetius, on the merits of the same work. 8vo. Philadelphia. Duane. 1811.

American Ornithology: or, the Natural History of the Birds of the United States. Illustrated with Plates, engraved and coloured from Original Drawings, taken from Nature. By Alexander Wilson. Vols. III. and IV. Imperial 4to. Philadelphia. Bradford & Inskeep.

The Picture of Philadelphia: giving an account of its origin, increase, and improvements in Arts, Sciences, and Manufactures, Commerce, and Revenue, with a compendious View of its Societies, &c. By James Mease, M. D. 12mo. Philadelphia. Kite.

Collections of the New-York Historical Society, for the year 1809. Vol. I. 8vo. New-York. I. Riley.

A Sketch of the History of Maryland: during the three first years after its settlement; to which is prefixed a copious introduction. By John Leeds Bozman, Esq. honorary Member of the New-York Historical Society. 8vo. Baltimore. E. I. Coale.

A Compendium of the Theory and Practice of Midwifery: containing practical instructions for the management of women during pregnancy, in labour, and in child-bed: calculated to correct the Errors, and to improve the Practice of Midwives; as well as to serve as an Introduction to this art, for students and young practitioners. Second edition, enlarged. By Samuel Bard, M. D. President of the College of Physicians and Surgeons in the University of the state of New-York. 12mo. New-York. Collins & Co.

PROPOSED AMERICAN PUBLICATIONS.

By Bradford & Inskeep, Philadelphia.—Memoirs of the War in the Southern Department of the United States. By Henry Lee, Lt. Col. of the Partisan Legion, during the American war.

By D. Mallory & Co. Boston.—An Essay on the Organic Diseases and Lesions of the Heart and Large Vessels. By J. N. Corvisart, Professor of the School of Medicine of Paris. Translated from the French, with Notes, by Jacob Gates, M. M. S

By the Author.—Travels in the United States of America, in the years 1806 and 1807, and 1809, 1810, and 1811; including an account of passages betwixt America and Britain, and Travels through various parts of Britain, Ireland, and Upper Canada. With an Appendix, containing a brief Review of various Geographical Works, and Books of Travels in the United States; an Abstract of the American Constitutions; and sundry Statistical Tables, and Documents relative to Political Economy. Illustrated by Maps and Plates. By John Melish.

TO READERS AND CORRESPONDENTS.

Although we have extended the present number, like many of our former ones, much beyond the limits originally proposed, yet we have been necessarily compelled to postpone several articles designed for insertion. A desire to bring to a close the strictures on Dr. Miller's Report on the yellow fever of 1805, must be our chief apology for their present omission. We trust, however, that the many interesting facts which we have now recorded on this subject, and the conclusions we have attempted to deduce from them, will amply repay the reader for the most attentive perusal. On the fever of the Wallabout of 1804, we have also assembled such a body of facts, grounded on the most authentic evidence, that, in our opinion, they cannot but produce the fullest conviction of the foreign origin and contagious nature of that disease. Our corresponding friends, particularly those whose communications we promised in the present number, will be accommodated in our next. In addition to the Reviews of Dr. Williamson's late performance on the climate of the United States, and of the valuable practical work of Dr. Currie, we shall attempt to give a review of Part I. Vol. I. of the Memoirs of the Connecticut Academy of Arts and Sciences, besides several articles of Philosophical Intelligence, both foreign and domestic.

The Editors feel themselves much indebted to a distinguished scholar and eminent professional gentleman of this city, for the letter addressed to his venerable grandfather, Dr Colden, from the pen of the late Dr. Franklin, and which they promised in their last number.

They have lately received some very interesting communications from their correpondents, Mons Nectout and Michaux, of Paris, and from Dr. Chisholm, of Clifton, England. They have also in a state of forwardness, an original Biography of that distinguished philosopher, the late Dr. Rittenhouse, of Pennsylvania, which will be accompanied with a superior engraving.

THE

AMERICAN

MEDICAL AND PHILOSOPHICAL

REGISTER.

APRIL, 1812.

ORIGINAL COMMUNICATIONS.

I.

A DISCOURSE *on the* IMPORTANCE *of* MEDICAL EDUCATION; *delivered on the 4th of November,* 1811, *at the opening of the present session of the Medical School of the College of Physicians and Surgeons. By* SAMUEL BARD, M. D. *President of the College of Physicians and Surgeons.*

A SOUND mind in a sound body constitutes the principal happiness and perfection of man. The means, therefore, by which such great and essential benefits are to be secured, have ever been the objects of his most anxious solicitude and serious inquiry. Bountiful nature has placed both, to a certain degree, within our reach; but she has not offered them gratuitously to our acceptance; and if we would enjoy, we must consent to purchase them at the price which she has invariably set upon these and every other blessing, which she pours profusely around us. That price, (young gentlemen, I address myself particularly to you,) that price, *is persevering industry and well directed labour;* without which nothing great or excellent was ever attained; and when properly aided by these, it is not easy to set limits to the powers of man, or to say what he may not achieve. Nor is this universal law of our nature more applicable to the health of the body, than it is to the improvement of the mind, "every exercise of which, upon the theorems of science, (says the admirable author of the Hermes,) tends to call forth and to strengthen our native and original vigour. Be the subject immediately productive or not, the nerves of reason are braced by mere employ; and we become better actors, in the drama of life, whether our parts be of the sedate or of the active kind."

Men, in every state of society, are compelled to acknowledge these truths; and it is only in the ends they have in view, in the variety of those things which they believe to be good and useful, that the untutored savage differs from the civilized man; that the ignorant and the vicious differ from the wise and the good. The means by which the objects of their pursuit are acquired, are the same in both. "It is as easy to become a scholar, as it is to become a gamester, or any other character equally low and illiberal; the same application, the same quantity of habits, will fit us for the one as completely as for the other." Indeed, we are in a peculiar degree the creatures of habit, and it is as easy to establish good and useful, as it is to establish evil and pernicious habits. Hence, the great value and importance of education, that such talents and faculties as God and nature have given us, may not only be called forth, but that they may be restricted within proper bounds and limits, and may be directed to their proper objects, to public and to private happiness. Otherwise, like seed committed to a luxuriant soil, but not enlivened by a genial sun, they may lie buried and inactive for ever; or, if not restrained by due culture, they will shoot out into wild and luxuriant branches, which will never produce good and wholesome fruit.

Man is an active and a restless being; nothing becomes so insupportable to him as continued inaction; if he is not doing good, he will, most probably, do evil; he will do mischief rather than do nothing. Even the savage, to whom rest is the most dignified, as well as the most grateful enjoyment, continually has recourse to the laborious toils of the chase, or to the fatiguing dangers of war, to relieve himself from the irksome feelings of protracted quiet. And in civilized life, the envied qualities of great genius and brilliant talents, when unimproved by study, and unrestrained by discipline, too frequently, like a wandering and blazing meteor, burn and destroy every thing they approach; but when restricted in their course by proper discipline, and directed by wisdom and virtue, they warm and cherish, and illuminate like the sun. It is, therefore, in the constitution of our frame, and in the natural structure of our minds, that we discover the reason and truth of the maxim, that the peace of society and the stability of government, especially of free governments, depend upon the instruction, information, and correct habits of the people. To give these a proper direction, and to establish them firmly, we must begin with early youth; we must lay the foundation of all pure religion, as well as of good government in our common schools. From whence, otherwise, shall offices be filled with ability; where shall we find just magistrates, and able teachers of religion and virtue? Where the protectors of our rights, and our properties; where the preservers of our health and our lives, if we neglect to instruct our youth, and leave them to grope their devious way, without a clew or a compass, through the labyrinths of this mazy world?

Conscious knowledge gives dignity of character, adds to the weight of authority, and renders the example of its manners more seductive. A wise and able magistrate, a learned professor of the law, a humane and benevolent physician, no less than an enlightened teacher of religion, contribute to the happiness of posterity, as well as to that of the age in which they live. By their example they mend the characters of those with whom they associate, and by their precepts they sow the seeds of excellence, which to future ages may bless and exalt their country; nor can there be a doubt, but that sound learning and correct taste, (independent of all principle) give a sensibility to the mind very favourable to virtue, and, at the same time that they become the source of happiness in themselves, place us above the necessity of seeking it from sources less pure.

But general observations on the necessity and advantages of education, are at least unnecessary, before this audience; we are rather called on to approve and admire the noble exertions, which our government is making on this important subject. The free school established in this city, reflects the highest honour on the wisdom, liberality, and benevolence of its patriotic founders; and the man who can walk through it, and behold five hundred innocent children, rescued from filth and misery, from ignorance and vice, trained in habits of order, decency, and industry, and instructed in useful learning, correct morals, and pure religion, without feeling his bosom expand with a generous philanthrophy, or his eye moisten with a sweet and delicious tenderness, must be strangely deficient in the best sentiments and finest feelings of the human heart. The progress that has already been made, and the good that has already been experienced from this noble institution, leaves us nothing to desire or to pray for, but that its wise and benevolent founders will extend their generous care to the state at large; and that we may soon see the ample funds, provided for this purpose by our government, appropriated to their destined object; to the establishment of similar institutions, as far as circumstances will permit, in every town of every county. Then, and I had almost said not before, we may hope to see pure religion and good morals triumph over ignorance and vice; and industry, decency, and content, banish, from the cottages of our poor, idleness, intemperance, and misery. Our government has proved itself not insensible to the importance of this great object; and I trust we do not want intelligent and disinterested individuals, who would gladly give their time and labour, to apply the public resources, trusting to receive, in the approbation of their own consciences, in the blessings of the rising generation, and in the applauses of the wise and the good, the most grateful remuneration.

Let us then turn our attention to that branch of learning, to which we of this college are particularly devoted; and consider, and endeavour to explain the nature of such public institutions and patronage, as experience has proved to be useful, and indeed necessary, in the education of an accomplished physician and surgeon.

Medicine is a comprehensive and an intricate science, founded on numberless facts, which have been discovered through the successive periods of distant ages, and have been collected and preserved in the writings of almost innumerable authors, of different nations and tongues. They have necessarily been coloured and disfigured by the credulity of some, rejected, lost, and again revived by the cautious discrimination of others; elucidated by after discoveries, and contradicted or confirmed by later experience. In ignorant ages and barbarous nations, this science has ever been connected with religion, involved in mystery, and disfigured by superstition; as men advanced from barbarism, it assumed a more rational form, and resting on the solid basis of experience, began to acquire beauty, symmetry, and strength; until, as the refinement of a speculative philosophy prevailed, theoretic opinions were substituted for facts, and the subtilties of the schools, and the wanderings of the imagination, for sound reasoning and chaste deduction. By these the progress of medical science, though not absolutely arrested, was greatly checked and retarded, until, by the great discovery of the circulation of the blood by Harvey, and the introduction of a sounder philosophy by Bacon, in which opinion was made to give place to observation and experience, and a patient investigation of facts was substituted for the sophistry of the schools; the science of medicine was again placed on its proper foundation, nature, observation, experience, and sound reasoning.

From this moment, anatomy, chemistry, natural history, and natural philosophy, which, although they had before been in the train of medicine, had rather accompanied than directed her researches, were impressed into her service, and made to take the lead in a medical education. Nor until he has made considerable progress in these, and is aided by the knowledge of languages, can the student of medicine be properly qualified, even to begin what is the great object of his pursuit, the study of diseases and their cures.

In a profession so various, so intricate, and so extensive, it is easy to see, that the scholar can make but little progress by private study; lost and bewildered in the multiplicity of objects, and in the contrariety of opinions, he absolutely requires the hand of a master to lead him into the plainest and most direct path; to remove, as he goes along, the obstacles which may obstruct his progress, and to point out such objects as are most worthy his observation. Nor are there many individuals capable of teaching all the preliminary branches; each of which is sufficiently extensive to employ the time, and to occupy the attention of a man of no common talents and industry.

Besides, chemistry requires an elaboratory, botany a garden, and anatomy a theatre and subjects; and above all, the study of diseases and the practice of medicine, cannot be taught but in a public hospital. As much, therefore, as oral instruction and the voice of the professor, is to be preferred to the silent investigations of the closet, still more is required; the co-operation of several teachers, and the facilities of a public institution; among which a large and commodious building, furnished with proper apartments for a library, an apparatus, a museum, an anatomical theatre, a chemical elaboratory, proper lecturing rooms, and a public hall, is essentially necessary to a good medical school, and that too in a large city, where only (in this country at least) anatomy and the practice of medicine can be properly taught. In both these, the student must not only receive the instructions of his teachers, he must not only reflect on, and digest what he hears and reads, he must see, and handle, and examine for himself. In anatomy, the subject, properly prepared, must be placed before him; without this, the most accurate description, even when aided by the finest plates and drawings, will be found perfectly inadequate to convey correct ideas, or to make durable impressions on the mind; the parts must be unfolded by the knife, they must be distended by injections, and whatever is uninteresting, and obscures their intimate structure, must be removed, or the student will look with a vacant eye upon what, to him at least, will appear a confused and unformed mass. And if possible, after having been taught what he is to look for, and what is most worthy his observation, he should handle the knife and the syringe for himself; he should learn how to prepare the subject for the instruction of others.

In chemistry, the science of nature, by which we are admitted into her confidence, are taught her secrets, and learn her processes, but slow progress can be made without a teacher, aided too by an extensive apparatus. For although by the introduction of a more correct language and a more liberal philosophy, all the jargon and mystery in which the old chemists clothed their communications and concealed their art, have been done away, still the multiplicity of facts, the delicacy of the processes, and the variety of the apparatus are such, that practice only can give that dexterity which is necessary to insure success; and to acquire that dexterity unassisted, would require more time, and would be accompanied by greater expense and loss, than most students of medicine, at least, could well bear.

In botany and natural history, the number of objects to be examined, and with which it is necessary to become intimately acquainted, is so great, that without a garden and a museum, without arrangement and system, no correct or valuable knowledge can be acquired.

And lastly, in the study of diseases, and in the practice of medicine, no histories, however accurate, no reasoning, however just, can convey the knowledge necessary for their treatment and cure. The student must see, and hear, and feel for himself; the hue of the complexion, the feel of the skin, the lustre or the languor of the eye, the throbbing of the pulse, and the palpitations of the heart, the quickness and the ease of respiration, the tone and tremor of the voice, the confidence of hope, or the despondence of fear, expressed in the countenance, baffle all description; yet all and each of these convey important and necessary information. Where can these be learnt, but at the bed side of the sick, and where shall a number of young men, who cannot be admitted into the privacies of families, or to the chambers of women, acquire this necessary and important information, but in public hospitals, which are not only intended to relieve the complicated misery of poverty and sickness, but as schools, should always be made conducive to the public good, and as such, even more than as charitable institutions, merit and receive the patronage of government.

But, besides the impossibility of teaching medicine in private, there are many advantages which attend public institutions in this, as well as in most other arts and sciences; and one is, that in general, from the division of the subject into many hands, a more enlarged, comprehensive, and systematic view of the whole will be taken; its connection with, and dependence on other branches of learning, will be more certainly pointed out, and general laws and first principles better taught; by which the student learns what are the proper objects of his inquiry at each stage, and as he goes along, is taught how to make a proper use of his previous acquirements and experience.

Young men too, engaged in the same studies, mutually assist each other; emulation, which warms and engages the passions on the side of whatever is excellent, cannot be excited without rivals, and without emulation in the scholar, instruction will proceed but at a languid rate; improvement will creep but slowly on, and excellence is never attained. Nor is emulation confined to the scholar; the emoluments of the teacher depend on his fame, and both on his talents and industry. Stimulated, therefore, by his interests, and spurred on by his ambition, he will make every exertion to recommend his lectures, which he knows are to be brought to the ordeal of a nice and critical examination. Among his hearers, there will always be a number of the elder students, very capable of judging of his merits, and very willing to discover and expose his errors. Such a system of education cannot long be conducted in a slovenly or incompetent manner; negligence will sit very uneasily, and incompetence cannot long keep her seat in a professor's chair.

Nor is it by exciting their emulation only, that young men, assembled at a public school, are of use to each other; they mutually instruct one another by their daily conversation; and in societies, formed for the purpose of discussing professional subjects, of examining each others opinions, and the opinions and doctrines of which they read in books, or which they hear from their professors. These they examine, confirm, or confute, (the elder students taking the lead) with a degree of attention and acuteness, which is no inadequate test of their truth and usefulness, which serves to explain them to their understandings, and to confirm them on their memories, with more clearness and precision, than hearing them many times repeated by their professors.

Indolence is the greatest enemy to learning; but indolence is a vice bred and nourished in solitude, and can hardly exist at a public school, except in minds of so heavy a mould as to be incapable of culture. On the other hand, to labour without plan or design, may, indeed, accumulate a confused mass of materials; but use, beauty, order, and proportion, are the result of skill, and to erect such materials as we may have collected, into a convenient and elegant edifice, requires the hand of a master. So the scholar, who trusts to his own researches, or who is directed by an inadequate guide, may load his memory and confound his judgment, by a great number of facts and a medley of opinions; by which, however, he will most probably be bewildered in a labyrinth, which will lead him into error, and terminate in darkness and confusion. But, he who has been properly initiated in the rudiments of his art, pursues his improvement in the light of day; every step he takes brings him nearer to his end; every fact and opinion he learns takes its proper place; the whole is arranged in lucid order, and knowledge, clear, precise, and conscious knowledge, is the happy result.

But in no profession, are sound learning, clear and definite opinions, and correct conduct, of more consequence, than in that of medicine; in the exercise of which, our dearest interests, our own lives and health, and the lives and health of our wives, and children, and friends, are deeply and essentially concerned. For let it be remembered, that there is no middle course in medicine ; it is a mistake to suppose that the conduct of a physician, unless intentionally, is ever of that neutral and inconsequential nature, that although it may do no good, it will do but little harm ; if through ignorance a physician does not do good, he will, most probably, do much injury, for our occasions of acting are so fleeting, that they must be seized at the moment, and to omit the opportunity of affording relief, is frequently to do all that is necessary to render the case under our care fatal or desperate. If a dysentery, a pleurisy, an apoplexy, or indeed almost any acute disease, be neglected in the beginning, protracted illness generally, and frequently death, is the consequence.

Nor, on the contrary, is there any profession in which that cautious diffidence, which is the result of deep knowledge, is of greater consequence. In our profession, to know when to act with vigour, when to look on with patience, and from what circumstances to deduce the arguments for either, is the result only of a thorough knowledge of our subject, and that meddling presumption, which is ever the companion of ignorance, is in no profession more dangerous.

Nor are the happy consequences of a good education in medicine confined to the chambers of the sick. A physician must necessarily, in some measure, become the companion, and frequently the intimate friend of his patient. His knowledge, therefore, and his example, become extensively useful or prejudicial. Is he wise, and good, and learned ; his learning will instruct, his humanity will bless, and his good example will amend many among those with whom he daily converses. Is he ignorant, and loose, and debauched; what mischief may he not do to the younger members of those families who put their confidence in him, and who generally look up to him as a character of superior talents, learning, and worth. And again, the medical character is not only very influential, it is the most numerous among the learned professions; the example, therefore, of a physician's knowledge and virtues, or the contamination of his ignorance and his vices, will assume a wider and a more extended range.

If, therefore, it is the interest of the people, and if it becomes the wisdom of government, to promote and patronise true learning, and to furnish the means of correct information and regular instruction in any art or profession, it most certainly does so in that of medicine; the most intricate, the most extensive, and except that of religion, the most important, and most influential of any.

It is, therefore, with perfect sincerity, and I hope, from a candid and enlarged view of the subject, that I congratulate you, gentlemen, and my fellow citizens at large, on the establishment of this *College of Physicians and Surgeons, and the Medical School connected with it*, which, if properly supported and encouraged, cannot fail to afford to our youth, who shall choose medicine for their profession, the means of a regular, full, and complete system of medical education. But a lamp cannot burn without oil, and to leave to the exertions of individuals, the whole weight of establishing and supporting so extensive and expensive an institution, is only to insure disappointment. To this cause I do not hesitate to attribute the want of success which has attended our former attempts; and from the better hopes we have been taught to entertain for our present establishment, I venture to predict the full accomplishment of our wishes. Although, therefore, we sincerely lament the misapprehensions which have deprived us of the aid of several gentlemen, connected with Columbia College, as well as of some formerly connected with this; still we have not hesitated to assume the honourable stations to which the Regents have appointed us; and confidently trusting, that they will continue to foster us, have determined zealously to persevere under their auspices. Our foundation is strong, our materials are good, our patronage powerful, and our labourers eminently skilful, and zealously industrious. Although, therefore, already far advanced in the vale of life, I do not despair, but I may still have the happiness to see these benches crowded with ingenuous youth, and this establishment affording to its liberal patrons an honourable testimony of their extensive and patriotic views; to its professors, an ample remuneration for their learned labours; to our youth, the source of the most valuable instruction; and, to our country at large, the substantial blessings of better health, improved morals, and extended information.

II.

REPORT *on the* NATURE *of the* YELLOW FEVER, *which prevailed in the cities of Carthagena and Alicant, in* 1811. *By* R. Y. VANCE, *Esq. Surgeon to the Forces. Communicated for the Register.*

His Majesty's brig Richmond, at Sea, 1st September, 1811.

SIR,

IN obedience to the orders of his excellency, Lieutenant-General Campbell, and the instructions I received from you, to proceed to the ports of Carthagena and Alicant, for the purpose of ascertaining the nature of the disease said to prevail in those places, I have now the honour to inform you, after making the most minute investigation in the Lazaretto, City, and Royal Hospitals in Carthagena, I have no hesitation in declaring, that the same disease exists there at present which prevailed in the years 1804 and 1810, and which, with some variations, I have witnessed so many Europeans fall victims to in the West-Indies.

The patient is generally attacked suddenly with cold shiverings, pains in the head, back, loins, and thighs; the skin becomes excessively hot; the pain of the head increases, particularly over the orbits of the eyes; the eyes themselves appear to the patient as if forcing from their sockets, have a particular red or fiery appearance, and the whole face appears considerably flushed; a continual restlessness prevails, the patient constantly throwing himself from one side of the bed to the other; at this period the pulse is very frequent, seldom under one hundred and twenty, and generally much more. Considerable irritability of the stomach always prevails; the vomiting at first of a bilious appearance, and sometimes only the drink that has been swallowed; but, as the disease advances, assumes a darker colour, and lastly deposits a grainy sediment resembling the grounds of coffee. From this stage of the disease no patient has been observed to recover; and, in those cases that have terminated fatally, or assumed the most serious appearances, suppression of urine has generally taken place. On the first attack, the tongue has generally a white appearance, which gradually becomes darker, with a brown streak in the centre, and towards the close of the disease, becomes quite black, furred, and dry. When the disease has advanced rapidly, the patient often becomes delirious on the second day, and dies either furious or comatose on the third, and sometimes on the fifth; but, when the crisis has taken place on the seventh day, the black vomiting has been always most frequent. In some who have died comatose on the fifth day, considerable quantities of pure blood have been vomited up. Sometimes the patient, after walking about and declaring himself well, has died perhaps in a few minutes.

About the third day, the eye looses its red appearance, and becomes tinged with yellow, after which it gradually extends to the face, neck, breast, &c. and, before death, generally assumes a lead or putrid-like appearance. The pulse, previous to this, has sunk considerably, and seldom beats oftener than fifty to sixty times in a minute. Hæmorrhages from the nose, mouth, ears, and bowels, have frequently happened; and vibices have sometimes made their appearance, as well as deafness and glandular swellings. On the first attack, the patient is generally costive; but previous to death, diarrhœa often takes place, and what is voided has always a black, putrid appearance, and excessively fetid smell. All these symptoms have not made their appearance in the same patients; but I have observed the whole in the numerous cases which presented themselves in the Lazaretto, and other hospitals in Carthagena. The disease has not been confined to any particular part of the town, nor is any person exempt from it who has not had it in the years 1804 and 1810.

I must beg leave to observe to you, that the number of deaths that has taken place (a diary of which I enclose) has not been exclusively occasioned by the yellow fever. The bilious remittent prevails here also; and in the

Royal Hospital I observed many of the soldiers labouring under what we call the jail fever, which they must have brought with them from the army, where, I understand, they have undergone much fatigue, and suffered great privations both in food and clothes.

The number of deaths may appear trifling for a town, the population of which is generally calculated at thirty-six thousand souls (the estimate in 1806;) but when you consider, that the fever last year reduced this number considerably, and that every person who had the means of escape has left it this year, leaving little more than a population of nine thousand in the city, most of whom had the disease upon former occasions, you will be able to form a more just idea of the mortality. The physicians cannot account for the disease making its appearance this year at Carthagena; but I have good reason to suppose it might have remained dormant during the winter, till roused into action again by the summer's heat; and I am more disposed to favour this opinion, from the circumstance of their using so little precaution last year; neither destroying the bedding, clothes, or other furniture, liable to preserve contagion, of any of the people who died of the disease, as they had done in the year 1804; and I am sorry to observe, they have gained little experience, as they pursue the same system to the present moment. The winds for several months have blown from the Levant; and the thermometer has generally ranged from eighty-two to eighty-four and eighty-six degrees, on Fahrenheit's scale.

In Alicant there is not the slightest degree of contagion existing at present, nor does it appear to have been so free from disease of any kind at any period for a series of years back. In the town of Elche, about four leagues distant, the yellow fever is said to have made its appearance, in consequence of a soldier from Carthagena, with five or six people who assisted him in his illness, having died after a few days' sickness. But the communication with that part of the town they resided in having been cut off, sickness and mortality are said to have ceased; and as a cordon was placed between the two towns, and a most rigid quarantine established, had I availed myself of ocular information, I should not have been admitted into Alicant again.

In Murcia, the capital of the province, and distant about thirteen leagues from Alicant, the disease has made its appearance with much more serious effects. It is also said to have been carried there by some refugees from Carthagena; and the Junta of Alicant have placed it in a state of quarantine, in the same manner as that of Elche. However, as the cordon is placed so far from the city, and little attention paid to persons coming from the eastward, together with the number of people rushing there from the various places near Carthagena, where the French have made their appearance, I am strongly of opinion, that that place will not long be able to escape.

I feel myself much indebted to Major-General Roche, and the British Consul at Alicant, for the assistance they afforded me in every thing relating to the object of my mission. The Junta were equally disposed to render me every assistance. In Carthagena I also experienced every attention from the Governor General, Consul, and Physicians constituting the Board of Health, that the service I was employed upon could possibly require.

I have the honour, &c.

R. Y. VANCE,
Surgeon to the Forces.

Wm. Pym, Esq. Dep. Inspector of Hospitals.

Deaths from the 29th July to the 29th August,
1811, *inclusive.*

July 29	12	Aug. 6	4	Aug. 14	24	Aug. 22	17
30	5	7	11	15	14	23	19
31	5	8	7	16	12	24	24
Aug. 1	7	9	7	17	8	25	29
2	8	10	16	18	20	26	34
3	2	11	7	19	22	27	20
4	4	12	20	20	22	28	20
5	8	13	21	21	8	29	36
						Total	468

PROCLAMATION.

Head-Quarters, Gibraltar, September 4, 1811.

Whereas an alarming fever has broken out at Carthagena, and other places on the coast of Spain, within the Mediterranean :

His Excellency the Lieutenant Governor has found it necessary to cut off all communication with Spain by sea and land; hereby calling on the inhabitants to come forward as conservators of the public health, as they did last year; and such as choose to volunteer this duty, as well as to keep improper persons out of the garrison, will take the trouble to send their names to the town major. Fourteen days quarantine from all ports of Spain within the Mediterranean, and ten days from those to the westward, as far as Ayamonte, are to be performed by all vessels, to be reckoned from the day of their anchoring in this bay. Ferry-boats, plying-boats, and bum-boats, are to be laid up, except such as may be found necessary by the pratique master, and those are to have a health guard.

Night-fishing to be discontinued until further orders, and the fishermen and boats to be mustered by the pratique master, night and morning, and to be accompanied with health guards.

The above regulations, which are adopted to preserve the health of this garrison, are to be most strictly obeyed.

By command,
JOHN RUTHERFORD, Sec'ry.

III.

A Case of Anthrax; successfully treated. By DAVID HOSACK, M. D. *Professor of the Theory and Practice of Physic and Clinical Medicine, in the University of New-York. Communicated to* GEORGE PEARSON, M. D. F. R. S. *by the Author.*

ALTHOUGH the disease, which is the subject of the following case, was well known to the ancients,* and has been well described by modern writers,† and is of so frequent occurrence as to fall under the notice of most practitioners; it is no less true, that there is at this day great difference of opinion as to the mode of treating it. It will be recollected, that, but a few years since, it was the subject of a public controversy in this city: and in Europe, surgeons are no less divided in the treatment of this disease, than they are in this country.

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* See Galen, Celsus, Fabricius.

† See Wiseman, Bromfield, Kirkland, David, Prix de L'Academie Royale de Chirurgie, tom. iv.

Pouteau, Œuvres posthumes. Pearson's Surgery. Cooper's Surgery.

In 1794, I attended a case of carbuncle, in consultation with two of our eldest and most respectable practitioners. The inflammation exhibited by the tumour appeared so active, that we unanimously agreed on the application of lead-water; poultices of bread and milk; an abstemious diet, with the internal use of depleting remedies. Under this treatment, the febrile symptoms increased; the tumour extended; sphacelus ensued; and, in a few days, terminated in the death of the patient. The appearances, progress, and termination of this case, led me to the resolution to employ a very different treatment in those cases which might afterwards fall under my notice. Since that period, it has been my practice to support the strength of my patient by a nutritious and stimulant diet, and the free use of bark and wine; at the same time preserving the tone and action of the part itself, by frequently washing the tumour with spirits or brandy, and by the constant application of a poultice composed of *bark and yest.* Finding these remedies successful in many instances which have fallen under my care, I enclose to you the following case, in which this practice was pursued, under the most unpromising circumstances, and therefore is better calculated to establish the principles upon which the cure of this disease is to be conducted; especially when it occurs in advanced life, and is preceded by, or accompanied with, a scorbutic or vitiated habit of body, as, I believe, is most usually the case.

I am, with great regard
and respect, your's,
DAVID HOSACK.

On the 5th of March, 1808, I was called to Elizabeth-town, in New-Jersey, to see Mr. John Hartshorne, aged 84, then on a visit to the family of Mr. Thomas Eddy.

He was extremely debilitated, and suffering much distress, from a tumour on the small of his back, which had been of several days continuance.

Upon inquiring into the history of the case, I was informed that the tumour, in the first instance, appeared like a common bile; but having been preceded by several smaller ones, and an eruption on the skin, it excited very little attention on the part of his friends. It, however, very soon was attended with an acute burning pain, and began to spread, the adjacent part assuming a deep red or purple colour. The family physician was called, who, at that time, was not acquainted with the peculiar character of this disease, having never met with it before in his practice, and therefore, very naturally treated it as a common phlegmon; applying the common cataplasm of bread and milk, for the purpose of inducing suppuration, together with the internal use of those remedies that are usually prescribed for the removal of simple inflammatory tumours.

The inflammation continued to extend, attended with severe pain in the part, fever, restlessness, loss of sleep, and occasional delirium. In this state I found him. The tumour appeared about six inches in diameter; of a dark purple, livid colour; extremely painful and sensible to the touch; in the centre of the swelling the colour was still darker, and was attended with a discharge of a thin acrid humour, as is usual in erysipelatous inflammation, altogether exhibiting the symptoms of approaching sphacelus: his pulses were small and frequent; his skin preter-naturally heated, and attended with a sense of itching over the whole surface of the body; his tongue was moist, but foul; his bowels were costive, except when relieved by injections, which were occasionally administered; his urine were sparing in quantity, and high-coloured.

Under these circumstances, of a typhoid state of fever, attended with a gangrenous appearance of the tumour, we advised the part affected to be washed with a strong solution of soap and water, rendered more stimulant by the addition of a small quantity of rum or brandy, and afterwards a cataplasm of bark and yest to be applied over the whole surface of the tumour; the same to be renewed every four hours, making use of fresh yest at each application: a wine-glassful of a decoction of bark and Virginia snake root, was also directed to be taken every two hours, together with the free use of porter, panado made strong with wine, and soup, as his nourishments.

As he suffered a great deal of pain, he was also directed to take occasionally, throughout the day, about twenty-five drops of laudanum, and at night an anodyne draught, if otherwise he was unable to sleep. These directions were faithfully complied with.

Upon visiting him on the 7th, his symptoms were much changed for the better. The appearance of the tumour was more healthy, and assumed a brighter colour, but was somewhat increased in size, and in the extent of the inflammation; his pulses were more full, and less frequent; his strength was also improved; he suffered less pain, and discovered a greater inclination for nourishment than he had before done. As he was fond of eggs and oysters, they were also allowed him. All the other remedies were directed to be continued.

I did not see him again until the 12th; in the mean time the bark and yest poultice had been steadily continued, with his decoction of snake-root, a generous diet, the liberal use of wine, and anodynes whenever he suffered much pain, or was deprived of his rest. At this time the tumour began to discharge, at different parts of its surface, a very healthy* pus; the apertures were small, but numerous, resembling the cells of a sponge, or honeycomb. It continued thus to discharge for several days.

We did not think it necessary to enlarge the openings, through which the matter was evacuated, as directed by Mr. Kirkland, David,† Mr. Cooper,‡ and the Editors of the Edinburgh Practice of Physic and Surgery. In cases where the ulceration may be of greater extent than in the present instance, and the quantity of matter very great, this practice may be advisable and necessary. About the 22d, we directed the poultice to be omitted, and the wound to be dressed with simple cerate. Within twenty-four hours after this change in the application, the quality of the discharge was sensibly altered. Instead of a healthy pus, a thin sanies, as in the beginning of the disease, was again poured out. The complexion of the mour also assumed a darker appearance; and his friends again became alarmed for his safety.

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* I am not a little surprised at the observation of John Pearson (see Principles of Surgery) and the Editors of the Edinburgh Practice of Physic and Surgery, when they remark, that "an Anthrax never evacuates a laudable pus." Wiseman also observes, "that he never saw a true carbuncle suppurate." On the contrary, I am inclined to believe that the wound never heals without this change in the quality of the discharge.

† See a very valuable memoir on abscess, by this writer, in the Memoires de l'Acad. de Chir. tom. iv.

‡ See First Lines of the Practice of Surgery.

Finding these changes, we again advised the tumour and neighbouring parts to be bathed with brandy, and the poultice of bark and yeast to be renewed.

From this time the wound recovered its healthy aspect, and continued to heal, without an unpleasant symptom. When the discharge totally ceased, and the wound had become cicatrized, a light compress of linen wet with rum or brandy, was directed to be applied to the yet tender surface of the part affected. As he still continued to complain of an itching over the whole surface of the body, we put him on the use of the decoction of sarsaparilla and guaiac.

On the 7th of April the cure was completed, when he returned to his family, in Monmouth.

If it were necessary, I could here add the history of another very formidable instance of this disease, as it occurred in the family of the British Consul, Col. Barclay; in which precisely the same treatment was pursued, and with the same happy result.

D. H.

IV.

LETTER *on the* INDIAN ANTIQUITIES *of the Western Country, by Mr.* JAMES FOSTER.

[The following letter, on a subject which has afforded much room for ingenious speculation, was originally addressed to Mr. Gilleland. It is now published with the view of making still farther known the facts which it contains. In his remarks, the writer very boldly dissents from the opinions of the venerable Bishop Madison, as contained in his communication on the same subject, published in the American Philosophical Transactions, vol. 6; from those of Mr. Jefferson, in his Notes on Virginia, as well as from many other eminent authors, without, however, assigning reasons of sufficient weight materially to invalidate the conclusions which they have established.

The Editors have thought the present a fit occasion to present the annexed representations illustrative of an interesting subject of a somewhat similar nature. The originals are in their possession. The explanations, though brief, will probably be satisfactory.]—Ed.

Chilicothe, Nov. 6, 1811.

In a former letter I promised to send you a description of the ruins of an Indian city which has been discovered in this state.

I was upon an electioneering excursion some weeks ago, when I came in company with Mr. De Voss, a gentleman who lives about eleven miles from this place, (Chilicothe,) and he politely invited me to his house. On our way thither we passed an Indian mound, which I made some remarks upon, and then inquired of him whether there were not in his part of the country, some antiquities that one might conveniently visit. He replied that there were some on his farm (for they are all farmers there) which would highly gratify the curiosity of any one, and that if I had any curiosity, he would go with me to examine them.

On the next morning we rose early and proceeded to examine a fortification which is on the *level summit of a high hill.* It contains about one hundred acres, and is enclosed by a *stone wall,* which, if we may judge from the quantity of stones (for it is in ruins) must have been twelve or fifteen feet high, and four or five thick. Within the area there are about thirty furnaces, from some of which I took cinders that resemble in every way those formed in blacksmiths' forges. From some of them I got pieces of burnt unwrought clay that look somewhat like pumice stone, but are of a pale blue colour. Those lying on the surface of the earth are covered with coats of *rusty mail*, which probably had lain there since the days of Lycurgus.

The fort is nearly circular, and has, if I recollect rightly, ten passes or gates, which are placed at regular distances from each other.

At one of these passes, and on the outside, there is the appearance of a well or spring, enclosed with a stone wall. This well was intended, I suppose, to supply water to those who might have occupied the fort, as there is nothing like a spring or watering place within the limits of it.

There are trees now growing in this fortification which are four or five feet in diameter, and they appear to have been preceded by a race still more gigantic, if we may judge from the long traces left by those that have rotted into their native dust. Some of the largest grew out of the foundation of the wall, in places where the stone had tumbled down on the side of the hill.

These things show the antiquity of the work, but there are others that show it to have been also a work of great labour; for there are no stones that could be used for building, within a mile of the ruins, except in Paint Creek, which runs by the edge of a hill; but the creek stones are of a very different kind from those used in the wall.

At the bottom of the hill on the south west side are the ruins of the *town*, or rather *city*. The cellars and the stone foundations of the houses still remain. The streets are in regular squares. Near it there is a large mound perfectly level to the top. It was from all appearances the residence of a warlike race; but a description of it will form the subject of a future communication.

The wildest speculations have often proved to be the most correct, and conjecture or accident are the leaders to the discoveries of experience.

But on this subject the first impressions will probably with most people be the last; and the general opinion will be still generally admitted to be true.

The notion of bishop Madison, of Virginia, that those ancient works, whose remains appear in our country, were never intended as fortresses, is the most *outre* that I have known to be advanced. I think he has not had the opportunity of viewing any one built of *stone*. Very few, I presume, who have examined for themselves, will believe that these works contain the fixed habitations of the people who erected them. The situation of these fortifications (for I will venture to call them so) must have rendered them every way inconvenient for the settled residence even of a warlike people, and present only the advantage of security.

Placed on the summits of hills they screened those within from all missile weapons, and from all weapons, I suppose, their antediluvian inhabitants were acquainted with. The face of the hill formed the *glacis*, and superceded the necessity of a *fosse*.

Of that long destroyed race of people we know nothing except what we learn from their works; even their traditions have sunk with them into a common grave.

But we have enough left in these vestiges of their labours and their wars, to convince us that they were much more civilized than the present Indian inhabitants of any portion of our continent.

Concerning the origin of the Indians there have been numerous learned, profound, and original conjectures. To me, the one that seems most reasonable is, that they are degenerated branches of the nations who erected these works; and those nations were originally from Asia, and if so, probably they are Scythians.

I am, my dear sir, with the sentiments of friendship and esteem, yours, &c.

JAMES FOSTER.

(See the annexed engraving.)

No. I. Represents a frog-shaped cup, found six feet below the surface, in digging a cellar in the State of Tennessee, near Nashville. It was originally in the possession of Judge Innes.

No. II. Represents a vase of Indian manufacture, washed out of a bank on the river Wabash, in the Indiana Territory. It was originally in the possession of Governor Harrison.

No. III. Represents an Indian vase, found under ground, in an inverted position, within the tenth town of Chenango County, State of New-York. It is of a capacity somewhat more than three quarts. The upper part, or mouth, is a little broken. The original was presented to Dr. Mitchill, by Jacob Bokee, Esq. of Dutchess County, (N. Y.)

V.

On the various Preparations and medical Virtues of the PERUVIAN *and other* BARKS; *in a Letter to* DAVID HOSACK, M. D. *from* CLARK SANFORD, M. D. *Connecticut.*

Greenwich (Conn.) January 7, 1812.

SIR,

When I had the pleasure of an interview with you, in New-York, I intended, agreeably to your request, shortly after to have forwarded the collection of barks, with their preparations, as referred to in my printed letter;—but owing to those delays and interruptions which are incident to a country practice, it has been postponed to the present time.

Should the specimens of bark now presented, and the explanations given of them in my letter, serve to elucidate inquiries concerning this branch of the materia medica, my views in laying them before you will be fully answered.

The box which covers this contains the principal barks which I have subjected to experiment and inquiry: and I have strong reasons for believing that this collection comprehends nearly every variety of Peruvian bark of any importance which is now to be found within the United States.

I regret that the samples of No. 1 and of No. 3 are so limited. The former could be procured only from a practitioner, residing in Virginia, and was forwarded in a letter. The latter has been handed out to friends, until the quantity left is very small. These specimens, however, will serve to show the colour and configuration of each.

The powdered sample of No. 1 has been on hand and exposed to the air for nearly ten years, and is not in its present condition thought to be very active. All the others are recent, and deemed to be in a good state of preservation. I am unable to furnish any specimens [illegible] No. 2 and No. 7, which are referred to in my printed letter, there being none to be found in market.

The objects held up to view in my letter on the subject of the bark are naturally arranged under the following heads, to wit:

First. To establish this fact, that several varieties of bark have lately been brought into use, differing materially from those kinds which had heretofore been known and approved; and that many of those possess but feeble medicinal powers, whilst others are totally destitute of any properties nearly resembling the true bark.

Second. To point out the characteristic appearances of each kind, both in the crude and pulverised state, in such manner as to render them most easily distinguishable by the senses.

Third. To show that the middle coating, or that part lying between the epidermis and semi-ligneous or cortical, where the glands reside, the fluids are digested and elaborated, is that portion which contains the chief active principles of the bark: and to prove that this glandular or parenchymatous portion is capable, by mechanical means, of being separated in a good degree from the remainder.

Fourth. To ascertain their comparative medical powers, as well by noting their effects on the diseased subject, as by the quantity of soluble principle which each affords to given menstruums.

Fifth. To ascertain by chemical tests the analogy which subsists between the dry extract or essential salt of bark, and the saturated infusion from which it is obtained; and to show by deductions from actual practice the medicinal value of this preparation.

Sixth. To inculcate the propriety and importance of administering the bark in the atonic state of disease in proportion to the lost excitement: and show that this object might generally be attained by adequate injections of this substance, even when the stomach would not retain it.

It seems now necessary to state only the result of subsequent observations made respecting the medical use of the essential salt of bark; to describe more particularly the manner of preparing this article; and to add some further particulars by which cinchona may be most readily and accurately distinguished from every other vegetable substance.

The diseases which have occurred during the late summer and autumn, have furnished considerable opportunity for further use of the essential salt of bark; the effects observed in the treatment of intermitting fevers correspond nearly with the opinion given of this preparation in my printed letter. It ought, however, to be remarked, that fevers of this description which were checked by this extract, were observed to recur more speedily after it was discontinued, and generally in a greater proportion of cases than when the powder was liberally employed.

I really concur in opinion with Vauquelin, that the effects produced by the essential salt are not proportional to the bark from which it is taken; nevertheless, I think that this preparation ought to be deemed of considerable importance. I have several times witnessed its great efficacy in the last stages of cholera infantum, as well as in other infantile complaints both of acute and chronic forms. As it is soluble in nearly the same quantity of water as sugar, it is remarkably convenient for the use of children.

It sets easier on the stomach, and is less liable to prove cathartic than the powder. Owing to its small bulk and convenient form for exhibition in pills, it can be used in a disguised form where the powder would be rejected. I have known it produce very happy effects, given in this way, where the naming of bark occasioned the most distressing loathing. This extract, when dissolved in much water, and kept in a warm situation, is speedily decomposed and becomes mouldy: therefore aqueous solutions of this substance ought to be used (especially in summer) within two or three days after being made.

In the preparation of the concrete or essential salts of the bark, great care and delicacy of management is required through every stage of the process.

The cold infusion ought to remain on the pulverized bark until the liquor is very transparent, say from twenty to thirty hours, the second infusion from thirty to forty, and the third from forty to fifty hours.

The clear liquor is then to be decanted, and after being filtered through several folds of fine flannel or bibulous paper, is to be evaporated in earthen plates in a degree of heat which is not painful to the operator, until about one half the quantity is reduced. At this point of evaporation the liquor ought to be decanted with a steady hand into other plates, to free it from an earthy-looking sediment which is thrown down by the heat. This part of the operation must be repeated, say once or twice more, or as often as any further sediment appears.

When the liquor is reduced to the consistence of thick syrup, the plates containing it are then to be removed from the bottom of the furnace, and placed above on slated scaffolds, until the salt is dry, and breaks up in brilliant scales.

It is only in a cool and dry atmosphere that this substance can be removed from the plates in a dry state, by reason of its great eagerness to absorb moisture.

Infusions of bark undergo the putrefactive fermentation during the summer months in so short a time that it frequently will happen that the first infusion only can be improved. For this reason, as well as on account of the deliquescent property of the salts, the temperate seasons are to be preferred for manufacturing this article.

I have hitherto confined my operations to the preparation of the dry extract by slow evaporation, according to the plan of the Count De Garaye, its inventor; and which that author and others have denominated the essential salt of the bark.

Should opportunity permit, I propose hereafter to attempt the preparation of the salts in the white and crystalized form, as is described by Vauquelin to be done by the Deschamps, in France. I design likewise to prosecute inquiries already begun respecting the properties and use of the dry extract of bark, which is obtained by means of alcohol. The result of which trials will in due time be submitted.

Until the experiments of Monsieur Vauquelin fell into my hands, I was persuaded that every bark, which when treated with water, precipitated galls and not animal glue, was changed by solutions of iron to a darkish green colour, and imparted little or no colour to cold water, was a cinchona, and that such vegetable substances as did not afford these precise appearances when treated in the same way, contained little or none of the kinic principle. I was led to this conclusion, because it was supported by some respectable authorities, and because every genuine bark, of known and approved virtues, of whatever colour, which I had examined, afforded these phenomena in a conspicuous manner; and because other barks, resembling the Peruvian in their sensible properties of bitterness and astringency, (of which kind are the barks of the cornus florida and the salix alba) will not precipitate galls and turn iron green, but will form a copious precipitate with gelatin.

The Angustura, and the lately introduced bark under the name of Alcornoque, are the only two kinds which I have found when tested as above, to agree nearly with the Peruvian bark. These being of the growth of the same country with the bark, and being equally tonic, and perhaps febrifuge too, it is not unlikely that, by further experience, they will be found to belong to the family of the cinchona.

If the chemical experiments of Vauquelin are correctly stated, and those barks which he found to precipitate isinglass and not galls, and also give out to cold water and not colours, are barks containing the febrifuge principle, as he intimates; it would seem that the tests here contended for were made doubtful; or that a highly predominating astringency was in these particular barks held in combination with the kinic principle. But as this author has furnished no satisfactory evidence, derived from actual observation of their medicinal effects on the human system ; and as many other astringent barks, which possess no febrifuge power, agree with them in chemical results, it may with propriety be doubted whether these supposed Peruvian barks have a stronger claim to our confidence, as febrifuge medicines, than the barks of the oak, persimmon, and numerous others. I think it may, therefore, be safely assumed, as before stated, that every bark, whose cold infusion is not higher coloured than a faint orange, which forms a copious whitish precipitate with the infusion of galls, little or none with the solution of isinglass, and which is changed by a solution of red or green sulphate of iron to a darkish green (not black or brown) is the true cinchona. The best red bark, marked No. 1, and the first quality of yellow, No. 5, produce, when treated alike, results so similar to each other, in regard to appearance of precipitate and colour of fluids, that they are not in this way easily distinguished. The long time required for the powder of the red bark to subside, from its containing water, probably has occasioned some mistake as to the colour of its cold infusion.

It is highly desirable that some means should be discovered of ascertaining the medicinal power of different kinds of Peruvian bark, with greater certainty than can be done by the taste and other senses ; and more readily than by observing the quantity of extract which they afford, or by the still more tedious means of observing their effects on the diseased patient. I had hoped that those agents which serve to identify the principles sought for, would likewise show the quantity of those principles. But I have not as yet been able to ascertain the quantity, by means of those agents which show the existence of the principle. For infusions of bark, whether they be made strong or weak, afford with galls nearly the same quantity of precipitate; and weak infusions, when united with iron, do not differ visibly in colour, or otherwise, from stronger ones treated in the same way. This branch of our inquiry, in particular, requires further investigation; and I hope it will be prosecuted by those who have more leisure than commonly falls to the lot of a country practitioner.

With sentiments of great esteem,
I remain,
Your obedient servant,
CLARK SANFORD.

Dr. DAVID HOSACK.

VI.

VIEWS *of the* MANUFACTURES *in the* UNITED STATES; *derived from the Returns made to the Treasury, pursuant to an Act of Congress, passed May 1st,* 1810. *In a Letter from* SAMUEL L. MITCHILL *to the Hon.* THOMAS NEWTON, *dated Washington, January* 7, 1812.

DEAR SIR,

The act further to alter and amend the act providing for the third census or enumeration of the inhabitants of the United States, passed May 1, 1810, made it the duty of the several marshalls, secretaries, and their assistants, while they were taking the census of the people, to take also, under the direction of the secretary of the treasury, and according to the instructions he should give, an account of the several manufacturing establishments and manufactures within their several districts, territories, and divisions. It was directed that the whole of the information so collected should be returned to the secretary of the treasury. It was enacted too that for such additional services, suitable compensation should hereafter be made by law. The money appropriated for counting the inhabitants and registering their manufactures, was one hundred and fifty thousand dollars, which is understood to have been more than enough to defray the whole cost.

Agreeably to the request of the committee of commerce and manufactures, I have paid some attention to the returns made by the marshalls on the state of manufactures in our country. They abound with information; though some of them are executed with greatly more care and exactness than others. Massachusetts appears to have been done with remarkable correctness and method, by counties and towns. The partial accounts are followed by a general recapitulation; and the whole is an example of order and perspicuity exceedingly creditable to Mr. Prince. South Carolina, on the contrary, is an example of carelessness beyond any of the returns. It is deficient in many important respects; and seems to have been sent away in such a hurry, that the columns of figures are not added together into an aggregate sum at the foot.

The information collected in the other states, evinces intermediate degrees of observation and accuracy. Yet it ought to be mentioned of New-Jersey, a state famous for industry and manufactures, that the county abstracts only are forwarded, without any summary whatever of the whole. To render the statement instructive, the reader must bestow the labour of forming the general conclusion; and in attempting this, he will discover frequent instances of incompleteness or inaccuracy. With this may be contrasted the return from Pennsylvania, which evinces an extent of research, on the part of Mr. Smith, honourable to him as an officer, and exhibits the manual arts and trades of the commonwealth to which he belongs, in a highly advantageous light. Their numbers and kinds are displayed with extraordinary detail, both as to the branches carried on and capital employed.

I nevertheless undertook the task of making a general abstract, and of deducing a sort of comprehensive table. I began with the return of Mr. Curtenius, from New-York, and entered the total sums of his several articles in one line upon a sheet of paper. There I recorded the 867 tanneries, 491 distilleries, 42 breweries, 33068 looms, 467 fulling-mills, 413 carding machines, 26 cotton manufactories, 28 paper-mills, 124 hatteries, 6 glass-houses, 2 powder-mills, 18 rope-walks, 10 refineries of sugar, 28 oil-mills, 11 blast-furnaces, 10 air-furnaces, 44 cut-nail manufactories, and 48 forges, with some other things, particularly the cloths manufactured in that extensive commonwealth. On attempting, however, to arrange the other returns under the same heads, I found great difficulties in the way. For, though Connecticut, North Carolina, Kentucky, and indeed most of the states and territories, corresponded very well to a certain number of titles, yet many of the latter were so difform and various, that it was impossible to class them under corresponding heads.

There were further difficulties. Maine was observed by a different officer from him who took the census of Massachusetts. The return from that district is so unlike the one made by the other marshall, that it is extremely difficult, if not impossible, to make them correspond and harmonize. I despaired, therefore, of effecting a reconcilement in the returns from the two parts of Massachusetts. Again ; Tennessee is in very much the same situation. The marshall of the western district of that state has made a valuable return; his colleague of the eastern district has not equalled him in particularizing and distributing his subject, and besides, has pursued so different a plan that it is not practicable to adapt them.

I might easily make other observations. The return from Rhode-Island might be quoted for its minuteness and accuracy. But, notwithstanding the appearance of observation and fidelity which pervades it, there is almost or quite an impossibility of adjusting its materials with those contained in the other returns. The like remark applies to Ohio, though its return contains indications of perspicacity and diligence ; and to Michigan, whose secretary, Atwater, has furnished a paper which, though small, is a model of perspicuity and neatness.

After several attempts to arrange and methodize the materials, so as to bring them into one compendious view, I became convinced that my labours were fruitless, and I abandoned the undertaking. It is certainly a subject of regret that a grand total cannot be formed of all the manufacturing establishments in the nation. Yet we may rejoice that so much has been done. When the next census shall be taken, we may be more successful. An exact schedule of all the subjects of inquiry ought to be formed. These, if transmitted to the proper officers, would direct their attention to certain and definite objects. The returns would thereby be rendered uniform, and capable of being added up into one great account, exhibiting in a concordant and uniform manner all the subjects inquired into throughout the states and territories.

Some most valuable information is derived from these returns, incomplete and heterogeneous as they are. Under the head of sheep, for example, we learn that Vermont contains a stock of 450,000; Massachusetts 399,182; Connecticut 400,000; and Pennsylvania 1,466,918.—Among these are included the individuals of the merino breed, and of the mixed race derived from their communication with the ordinary kind. From these premises we deduce favourable conclusions as to the food derived from their carcasses, the leather from their skins, and above all the clothing from their fleeces.

The number of looms, and of carding and spinning machines, almost exceeds belief, as does also the amount of cloth prepared by the inhabitants. The woolen manufacture has prodigiously increased, as well in the quality and variety, as in the quantity of the goods. Such advances are already made toward supplying domestic fabrics enough to clothe the people, that but few years more will be necessary, under the existing commercial restrictions, to effect that important object.

The progress made in the preparation of cotton-twist, and of the articles into which it may be manufactured by the weaver, has been still more rapid and surprising. From a perusal of these papers, the most comfortable assurance is derived of the amount and fitness of these products of the loom, to afford a covering to man, and furniture for his habitation.

The fabrics of flax are also so far extended, and so much on the increase, as to excite the most cheering prospects of an augmented supply to our citizens, from their own proper labour and skill. The superior excellence of homespun linen is the strongest of all recommendations.

These papers contain a more distinct and interesting exhibition than we ever had before of the saltpetre manufactured in the states. Thus Virginia prepares 59,175 pounds; Kentucky 201,937; Massachusetts 23,600; East Tennessee 17,631; and West Tennessee, chiefly in Jackson, Warren, White, and Smith counties, 144,895; making nearly half a million pounds of home-made nitre, as good as that usually brought from foreign parts. It is alleged, the quantity may be increased to any desirable amount. The connection of this with numerous manufactories of gun-powder, puts us quite at our ease as to the nitrate of potash, and to the means we possess of compounding it.

The manufacture of straw is eminently worthy of notice. In Massachusetts, where the forming of bonnets from that material seems to have first begun, the yearly amount of the sales is not less than $551,988. The manufacture of straw bonnets has been since undertaken in Connecticut, and produces the yearly value of $27,100; and it is worthy of remark that the labours of two women in New-Jersey, in the same way, yielded them $140, amounting to the sum of $579,228, for the single article of straw bonnets.

Nor is the preparation of sugar from the juice of the maple-tree unimportant. Of this domestic sweet, Ohio produces, in a twelve-month, 3,023,806 pounds; Kentucky, 2,471,647; Vermont, 1,200,000; and East Tennessee, 162,340: making a quantity of nearly seven million pounds in these states only, wherein the returns may be conceived to be greatly within the truth.

Works in horn, ivory, and shell, have made a progress that is worthy of notice. The combs, for instance, which Connecticut prepares annually for market, are estimated at

$70,000 ; Massachusetts $80,624 ; and Pennsylvania $6,240 ; equalling a sum of $156,864.

I may mention too the abundance of copperas which West Tennessee, and Vermont afford. The quantity per annum from the former, is stated at 56,000 lbs. ; and from the latter, at 8,000. The quality of these sulphates of iron are declared to be very fine, and that druggists and dyers may be supplied to any demand they may make.

The tanning of skins is displayed, in these surveys, to great advantage. Indeed, among a people who universally wear shoes of leather, and a great part of whose male inhabitants dress in boots, the consumption of that material is extravagant. By admitting hides and peltry free of impost, and laying heavy duties upon the introduction of tanned and rawed leather, Congress has given ample protection to the operations of preparing skins for use. But our domestic supplies go far beyond the demand for the feet and legs. Saddlery, harness, and books, are principally supplied from the same internal source, to the great extent of their several demands ; and the like may be observed of the supplies for the wants of navigation and military equipments.

A prominent feature in the face of this performance is the number of stills employed in the preparation of ardent spirits. The quantity of ardent spirits annually distilled appears, by the returns, to equal the prodigious amount of twenty-three millions seven hundred and twenty thousand gallons. The extraction of brandy from peaches, of an alkoholic liquid from cider, and of whiskey from rye, and even maize, is carried to this alarming excess. These products of the distilleries are chiefly consumed among ourselves, though a portion of the latter is converted to gin before it reaches the human stomach. While, therefore, we observe the increase of these home-made fluids, we must reflect on their inebriating effects. It cannot be disguised, that their intoxicating quality recommends them to such general employment. Nor ought it to be concealed, that in a country where a gallon of this maddening stimulus can be bought for half a dollar, a gill may be obtained at retail for three cents, and the seller, at the same time, more than double his money. The fondness for this bewitching beverage, and the repugnance to any excise upon it, raise in the mind a curious association between the free use of it and of political freedom. And it deserves the consideration of all the thinking part of society, how far disease, idleness, immorality, and other mischiefs incidental to strong potation, may not degrade freedom to rudeness and something worse.

A few other important objects disclosed by an examination of these papers, remain to be mentioned.

The number of water and horse-mills employed in spinning cotton, on this exhibition, amounted to 330, in the month of August, 1810, and working one hundred thousand spindles. These, on an average, will spin annually between four and five million pounds of yarn; and that yarn would be sufficient to weave eighteen millions of yards of cotton cloth, three quarters of a yard wide. And this is wholly independent of what may be spun in private families, although it makes part of what is wove there.

The fulling mills returned amount to 1630; and the wool-carding machines, going by water, to 1585.

The number of looms returned exceeds 330,000; and the total number of yards of cloth made of wool, cotton and flax, as returned, exceeds seventy-five millions.

Gun powder mills are enumerated to the number of 207. Some of these are, indeed, small; but they count, and, in addition to the larger ones, they prepare yearly 1,450,000 pounds of gun-powder.

Five hundred and thirty furnaces, forges and bloomeries are enumerated.

The paper mills amount to 190.

I cannot forbear to express the wish, that these important papers may fall into the hands of some person who may have time and ability to derive from them more extensive information than I am able to give you. But, until this shall be done, the present communication may serve to afford some idea of the manner in which the marshals have executed their instructions, and of the facts which their returns contain.

Allow me to assure you, once more, of my great esteem and regard,

SAMUEL L. MITCHILL.

VII.

LETTER *relative to* STEAM BOATS, *addressed to the Editors, by* JOHN STEVENS, *Esq. of Hoboken, (N. J.)*

In the American Medical and Philosophical Register, for January, 1812, I find inserted, a communication denominated an " Historical Account of the application of Steam, for the propelling of Boats." " A new art," says this historian, " has sprung up among us, which promises to be attended with such important consequences, that

I doubt not, sir, you will with pleasure make your useful work record its introduction, that when in future years it becomes common, the names of the inventors may not be lost to posterity."

I must confess, sir, I feel some ambition to have my name too enrolled with those of other candidates for fame on this occasion. And in the distribution of honours, I hope, and trust, I shall not be entirely overlooked, but be able to make good my claims to some small portion of merit. In bringing forward and supporting the evidences of these claims, I shall be compelled to rectify the numerous incorrect and defective statements made by the "Friend of Science." I am, however, by the agreement subsisting between Messrs. Livingston and Fulton and myself, exempted from being actuated, on this occasion, by any motive of a pecuniary nature. After mentioning the unsuccessful attempts of Fitch and Rumsey, we are told, that "the next attempt was made by Chancellor Livingston," and that "not long after, John Stevens, Esq. of Hoboken, engaged in the same pursuit." This statement is incorrect in every part.

By a certificate of Mr. John Watts, who was then a member of the Legislature of this State, it appears that in February, 1789, he received from me, and laid before the house, a petition relative to a Steam Engine, to place on board a vessel. The ensuing year I presented to the Commissioners named in the act of Congress, for the promotion of useful arts, descriptions of various improvements of the Steam Engine, among others is the following:

"A mode of propelling a boat by steam, of which the following is a description.

"The cylinder lies horizontally in the bottom of the boat; and near to each end of it; are attached vessels somewhat more capacious than the cylinder itself, nearly filled with water or oil. Into each of these vessels the steam from the boiler is alternately admitted, and propels the water or oil into each end of the cylinder, and by this means the piston is driven backwards and forwards by the action of the water or oil upon it. The piston being hollow, is made of the same specific gravity of the water or oil. The rod of the piston has a number of teeth which catch in the teeth of a small wheel, on the axis of which is fixed another large wheel, the teeth of which catch on each side into the teeth of two rods which pass through the stern of the boat, to the end of which rods floats are fixed which operate as paddles to propel the boat through the water."

The following is a copy of a letter addressed to Mr. Henry Remsen, then Secretary to Mr. Jefferson.

Hoboken, April 20th, 1791.

DEAR SIR,

Your polite attention, and readiness to serve me while last at Philadelphia, induces me to trouble you once more. As I am now actually engaged in constructing the different parts of the machinery of a Steam Engine, in order to make an experiment of my project for propelling a boat, I am under some solicitude respecting the event of my application for a patent. Whatever information, therefore, you can give me respecting this business, will be very acceptable.

I would wish also to hear what progress Messrs. Fitch and Rumsey have made towards an accommodation.

I am, Sir, with esteem,
Your very humble serv't.
JOHN STEVENS.

HENRY REMSEN, Jun. Esq.

In a letter dated September 6th, 1791, Mr. Remsen writes, "your patents are now ready for delivering;" among these was a patent for the above described "mode of propelling a boat by steam."

In the execution of this project I employed one Hall, an ingenious mechanic from England. But after expending a considerable sum of money, and nearly completing the engine, Hall became so confirmed a sot, as to be totally incapable of proceeding, and shortly after died. Unable at that time to find another person capable of conducting the business, I was compelled to abandon the project.

Thus then it appears, that I had turned my attention to steam boats in 1789. That in 1791 I actually obtained a patent for a steam boat, which, after having nearly completed, I was compelled to give up for want of a competent workman.

No less than seven years after this, viz. on the 27th March, 1798, Chancellor Livingston obtained an act of the Legislature of this State in his favour, for an exclusive right of propelling boats by steam, and, as stated by "A Friend to Science," a boat of about 30 tons was built, and a considerable sum of money expended in the experiment.

But this gentleman has omitted to mention, that in this business Mr. Stevens was jointly concerned with Chancellor Livingston and Mr. Nicholas Roosevelt. That after the "horizontal wheel" had been tried and abandoned, we made trial of eliptical paddles which I had made for the purpose. But owing to the defective construction of the machinery, we were never able to make a fair trial of these paddles.

The steam engine was constructed by two of our best engineers, Messrs. Stoudenger and Smalman.—Mr. Smalman had recently come out from England, where he had long been employed under Messrs. Watt and Bolton; the engine was of course constructed, in every respect, after their plan. But to our cost, we were soon apprized of a radical and fatal defect in principle, incident to Watt and Bolton's engines on the usual construction. The defect here alluded to, is stated and explained in the observations annexed to my patent, dated April, 1811, a copy of which is now subjoined.*

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* *Observations annexed to the specification.*

It may, perhaps, be necessary to subjoin a few observations, in order fully and justly to appreciate the great magnitude of the alternate pressure on the cylinder upwards and downwards at each stroke of the piston. Setting aside friction, the piston may be considered as working loosely in the cylinder. If, therefore, a vacuum be formed on one side of it, and an elastic fluid be introduced on the other, a partial pressure will take place against the exterior and interior surfaces of each end of the cylinder, the one end will have to sustain the pressure, whatever it may be, of this elastic fluid against its interior surface, counteracted by the pressure of the weight of the atmosphere on its exterior surface—the other end will have to sustain the pressure of the whole weight of the atmosphere on its exterior surface, without the counteraction of any pressure against the interior surface. Should, therefore, the pressure of this elastic fluid be less than that of the atmosphere, the difference will be the amount of the partial pressure. Should it be greater, the excess added to the pressure of the atmosphere, will constitute the whole partial pressure. We will suppose then, that the steam has an elasticity sufficient to raise a weight on the safety valve, equal to eight pounds on the circular inch, and the pressure of the atmosphere is estimated at twelve pounds on the circular inch. The whole partial pressure will then be alternately on every circular inch of each end of the cylinder equal to twenty pounds. On a cylinder then of thirty inches

As I have therein stated, "to avoid the mischievous effects necessarily resulting from the alternating stroke of the engine on the ordinary construction, I turned my at-

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diameter, making only fifteen double strokes per minute, there will be an alternate pressure upwards and downwards, and changing every two seconds, of no less than 18,000 pounds. No strength of timber in a boat, could withstand the enormous strains which such a pressure, charging too so frequently, would occasion.

The importance then, of adopting such an application of the power of the engine, as will tend to counteract this pressure, will *now* appear sufficiently evident. And it will at once be perceived, that the object is fully attained by the modifications of the machinery described in this, and in the patent I have lately taken out. In a few words, I will explain the modus operandi. When the piston is ascending, and the cylinder is pressed downwards, the connecting rods on each side pull upwards, and, vice versa, when the piston is descending, and the cylinder is pressed upwards, the connecting rods push downwards.

It may, however, be said, that this appears so plain and obvious, that it must readily occur to every engineer pretending to have any acquaintance with the steam engine. But the following detail of my own progress toward the establishment of the principle, will evince very clearly, that the subject does not really lie so near the surface as might *now* be very naturally supposed. Some years ago I was connected with Chancellor Livingston and Mr. N. Roosevelt, in an unsuccessful attempt to construct a steam boat; and although two of the ablest engineers then in the country were employed, both intimately acquainted with the construction of the steam engine, yet, so it was, that our ultimate failure was principally owing to the want of due precautions in the modification of the machinery, so as to counteract the effects of the alternate partial pressure on the top and bottom of the main cylinder. So great indeed was the vacillancy of the cylinder, that there was no possibility of preventing the disrupture of the connection pipes. To avoid these mischievous effects necessarily resulting from the alternating stroke of the engine on the ordinary construction, I turned my attention to the construction of steam engines on the rotary principle. It is not necessary to tention to the construction of steam engines on the rotary principle." And the first steam boat put in motion on the waters of the Hudson, was one constructed on this principle. I trust, then, I shall be pardoned, should I enter into a more minute description of this little curiosity than may at this time appear necessary. For simplicity, lightness, and compactness, the engine far exceeded any I have yet seen. A cylinder of brass, about eight inches diameter, and four inches long, was placed horizontally on the bottom of the boat; and by the alternate pressure of the steam on two sliding wings, an axis passing through its centre was made to revolve. On one end of this axis, which passed through the stern of the boat, wings, like those on the arms of a wind mill, were fixed, adjusted to the most advantageous angle for operating on the water. This constituted the whole of the machinery. Working with the elasticity of the steam merely, no condenser, no air pump was necessary. And as there were no valves,

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go into any detail of my various experiments to accomplish this purpose. It is enough to say, that I was finally compelled to abandon the project, and resort again to the reciprocating engine. Actual experiment, as above stated, had taught me the indispensable necessity of guarding against the effects of partial pressure. And I constructed an engine, although differing much from those I have desribed, yet so modified as to embrace completely the principle above stated. I afterwards constructed another on similar principles, but varying very considerably the arrangement of the machinery. These were both on a small scale, and placed on board of small boats. I then built the boat now running on the Delaware, and put an engine in her, the construction of which illustrates the efficacy of the principle in a more palpable and striking manner than the one I now have on board. In so much, as the axis passed *under* the cylinder, it was so far similar to the one described in the above specification.

JOHN STEVENS.

New-York, April 10th, 1811.

no aparatus was required for opening and shutting them. This simple little steam engine was, in the summer of 1802, placed on board a flat-bottom boat I had built for the purpose. This boat was twenty-five feet long, and about five or six feet wide. She was occasionally kept going till the cold weather stopt us. When the engine was in the best order, her velocity was about four miles an hour. I found it, however, impracticable, on so contracted a scale, to preserve due tightness in the packing of the wings in the cylinder for any length of time. This defect determined me to resort again to the reciprocating engine. But the unsuccessful experiment in which I had, as above stated, been engaged in conjunction with Chancellor Livingston and Mr. Roosevelt, had taught me the indispensable necessity of guarding against the injurious effects of partial pressure. And accordingly I constructed an engine, although differing much from those described in the specifications of my patents, yet so modified, as to embrace completely the principle stated therein. During the winter, this small steam engine was set up in a shop I then occupied at the Manhattan works, and continued occasionally in operation till spring, when it was placed on board the above mentioned boat, and by means of bevel cog wheels, it worked the axis and wings above mentioned, and gave the boat somewhat more velocity than the rotary engine. But after having gone some time in crossing the river, with my son on board, the boiler, which was constructed of small tubes, inserted at each end into metal heads, gave way, so as to be incapable of reparation.*

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* In 1804 I had two cylinders cast at Mr. M'Queen's furnace, each of sixteen inches diameter. These were bored at a boring machine

Since that time I have made a variety of unsuccessful experiments with boilers of different constructions, and at length contrived the boiler now on board the Phœnix, for which I obtained a patent, dated January, 1810. In the boiler put last season on board the Juliana ferry boat, I have improved upon the one in the Phœnix. The furnace, as well as the flue, is suspended on a frame work of cast iron, which renders the boat perfectly safe from all danger of fire, and supercedes the necessity of an enormous mass of brick-work. By inserting two flues in the cylinder in the place of one, a very considerable weight of water is saved, and a greater surface of metal in the same compass is exposed to the action of the fire. Its cylindrical form renders its construction easy and cheap, and at the same time, gives it a superiority over every other in withstanding pressure. Possessed of all these advantages, I may presume to adopt the words of the "Friend to Science," when he says, that this boiler "promises to be a useful improvement on engines designed for boats." But I am sorry this gentleman has preserved a profound silence in respect of another improvement, which I consider as infinitely more important than the one he has been pleased to notice in terms of appro-

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put up for that purpose at Hoboken. One of these I determined to put on board a boat, to ply as a ferry boat, and had nearly concluded a contract with a ship carpenter, for building a boat eighty feet long and twelve feet wide. But considering his terms extravagant, I broke off with him. The engine, when finished, was put on board of one of the ferry boats. But owing principally to the defects of the boiler and furnace, she did not answer my expectations. The two cylinders were afterwards put on board the Phœnix, and after taking her round by sea into the Delaware, were removed, and the present engine put on board.

bation, inasmuch as it is indispensably necessary to a steam engine, with an alternate change of motion in the piston, when placed on board a boat. This improvement, as above stated, was first carried into effect in the winter of 1802, and consists in modifying and constructing the machinery in such manner as that "the power of the engine be communicated to the water wheels without causing any strains whatever to any part of the boat." (See patent, dated January, 1810.) "Whatever modification may be adopted, it is essentially necessary, in order to carry the principle fully into effect, that the cylinder be firmly and immovably connected with the support of the axis of the cog wheels on each side of the cylinder, in which the shackle pins are fixed, or with the support of whatever other means or contrivances, that may be used for communicating motion from the piston, to the operative movements of the engine." (See patent, dated April, 1811.)

I am still more sorry for the silence of the "Friend of Science," on the subject of this improvement, as Mr. Fulton, in the construction of the machinery of the Paragon, has, (certainly with great propriety,) adopted, not merely the principle, but the precise mode also, by which I have carried this principle into effect, on board the Phœnix and Juliana.

But, independently of the main object of this improvement, Mr. Fulton has, by its adoption, acquired other advantages, which, though comparatively of minor importance, are by no means inconsiderable. The weight and volume of the machinery has thereby been very much diminished.

But "Mr. Stevens has, since the introduction of Messrs. Livingston and Fulton's boat, adopted their principles, and built two boats that are propelled by wheels."

What is meant here, by adopting Messrs. Livingston and Fulton's principles, I cannot even conjecture. The whole of my machinery and boiler I claim as my own invention, and have accordingly taken out patents for these, as I conceive, important improvements, embracing a great variety of objects, which it would be tedious and unnecessary to enumerate here. Those who wish more minute information on the subject, I beg leave to refer to my patents, specifications, drawings, and descriptions, filed in the patent office.*

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* Besides the improvements above mentioned, I will add, among a number of others, the following:

1. The cylinder, condenser, and air-pump, are all firmly bedded upon a single plate of cast-iron, and the power of the engine exerted without causing any strains whatever to any part of the boat.

2. An improvement is made in the construction of the air-pump, not merely by giving it a double stroke, but by causing the piston to pump out the injection water from the bottom of the condenser, when the piston rises, and by exhausting the air separately from the water from the top of the same, when the piston descends.

3. A new kind of parallel motion for preserving the vertical position of the piston rod of the air pump.

4. A new mode of fixing the valve seats with firmness and accuracy.

5. Valves with perforated stems passing through from the upper seat downwards, and from the lower seat upwards.

6. The levers for opening and shutting the valves are worked by a rotary motion, instead of the alternate rectilinear motion of the common plug frame, the working gear of which is very liable to get out of order.

7. By making the guide-posts triangular, a great increase of strength and firmness is given to them.

8. By means of a cylinder placed above, between the two main

It is very true, that I now make use of water wheels on each side the boat. It is surely very far from my intention, to make any attempt to invalidate Mr. Fulton's claim to water wheels thus applied. It is an unquestionable fact, that he was the first person who, for any practical useful purpose, applied water wheels on each side of a steam boat.

It may not be amiss to mention, that in the year 1807, when the north river steam boat made her first appearance on the waters of the Hudson, I constructed an engine and boat on a very small scale, viz. fifteen feet long, and four and an half feet wide. To this boat, considering her size, I gave a most astonishing velocity. At times not less than six miles an hour. To be sure, she had water wheels on each side. But that this extraordinary velocity was not altogether owing to this circumstance, is evident from the fact of her going, notwithstanding every disadvantage, much faster than the north river steam boat. Mr. Fulton has, however, incontestably the merit of being the first person who applied steamboats to useful purposes. And when we take into consideration the progress this art, as yet in its infancy, has already made, our anticipations of its future advancements toward maturity, must be flattering indeed.—When too, we consider the wide extent of the navigable waters of these states, how gratifying to our patriotic

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cylinders of which the boiler is formed, a supply of water is furnished to the boiler whenever it is necessary to stop the engine. This contrivance, if the stop is not very long, prevents the safety valve from rising, and making a disagreeable noise, and thus too prevents the loss of heat and steam, and while the engine is going, it furnishes more steam-room to the boiler.

feelings must be the thought, that the United States is destined to be the theatre where this endemic art will, at some future day, be exhibited with unrivalled splendor.

I am not insensible of the trespass I have committed on the time and patience of your readers, by the prolixity and minuteness of detail in this communication.—The unavoidable egotism too, which prevails throughout, may subject me to the imputation of vanity. For these errors, I hope and trust, it will be a sufficient apology, when I say, that I have been involuntarily dragged into them, by what I conceived to be an imperative duty I owed to the public as well as to myself. To the public, that on a subject so important, the most correct information should be laid before them: to myself, that the evidences of what I considered just claims to merit, in the application of steam to propelling of boats, should be brought forward, and supported to the utmost of my power.

It may not be amiss to state, that I have lately made an arrangement with the proprietors of the union line of Philadelphia, New Castle, and Baltimore packets, for running steam boats on said line, in the Delaware and Chesapeake. By this arrangement, said proprietors are vested with the exclusive right and privilege of running steam boats on the Delaware, below Philadelphia, and on the Chesapeake to Baltimore, under the patents of John Stevens and Robert Fulton.

A line of steam boat conveyance will now be established, with only about forty miles of land carriage, between the cities of Albany, New-York, Philadelphia, and Baltimore, a distance of three hundred and fifty miles.

A steam boat, not of the most improved construction, has for two seasons navigated Lake Champlain. But a company is now formed, to build one for this navigation, on a larger and more approved plan. I am also informed, that a gentleman at Montreal, has lately imported a steam engine from England, and purposes placing it on board a boat, to navigate on the St. Lawrence, between Montreal and Quebec. When this is effected, a steam boat conveyance will be established from Quebec to Baltimore, a distance of seven hundred and fifty miles, with little more than one hundred miles land carriage.

VIII.

BIOGRAPHICAL SKETCH *of the late* DR. CHARLES M'KNIGHT, *A. M. of New-York. Communicated by a Correspondent.*

(With an engraving, by Leney.)

DR. CHARLES M'KNIGHT, the subject of the present memoir, was born on the 10th of October, 1750, at Cranberry, Monmouth county, New-Jersey. His father, Mr. Charles M'Knight, was a native of Ireland, and son of the Rev. John M'Knight, a dissenting minister of respectability in that country.

About the year 1746, Mr. M'Knight, thinking that the new continent afforded a better field for the exertion of those talents which nature had bestowed upon him, departed from his native country for America, and took up his residence in New-Jersey. Shortly after his arrival he was called, by the unanimous request of a respectable congregation, to the ministry of the gospel. Although not educated for a clergyman, he appears to have been strongly disposed to a religious life, as being the one in which he could live with greatest satisfaction to himself

Dr. Chas. Mc. Knight.

D^r. Cha^s. M^c. Knight.

and benefit to society. Nor did his inclinations mislead him, for he closed his useful labours as much lamented as he lived respected.

Charles, his eldest son, at an early age, gave evidence of superior talents, and after having passed through his preparatory studies with much credit, was admitted a student in the College at Princeton, and received the degree of A. B. in 1771. He now commenced the study of medicine under the direction of the late Dr. Shippen of Philadelphia. Before, however, he had qualified himself for the exercise of his profession, the revolutionary war in America took place, and young M'Knight, with a number of medical gentlemen, entered the army, considering that the place best calculated to enlarge his practical knowledge. Here his abilities soon attracted the attention of the commander in chief, and he was in a short time promoted to the rank of senior surgeon of the flying hospital in the middle department. In the discharge of the important and arduous duties of his station, his talents and indefatigable zeal were equally conspicuous. Although surrounded by the most discouraging circumstances, and exposed to all the hardships necessarily connected with that department of the American army, he was pre-eminently conspicuous for the performance of all those duties, which the peculiar situation of his country required, and his humane disposition led him to undertake.

At the conclusion of the war, he removed to New-York, and married Mrs. Litchfield, only daughter of the Hon. John M. Scott. Our city could not, at that time, boast of the medical school it now has, or his talents would undoubtedly have procured for him the professorship of anatomy and surgery. He, however, delivered lectures on these two branches of medical science, to a numerous and attentive class of scholars, while the profundity of his research, and the acuteness of his genius, gained for him the approbation even of the most fastidious. In a life of constant activity, both as a practitioner and a teacher, he continued until he had arrived at his 41st year, when a pulmonic affection put a period to his labours and usefulness.

Dr. M'Knight, though eminent as a physician, was particularly distinguished as a practical surgeon, and, excepting the late Dr. Richard Bayley, of this city, was without a rival in this branch of his profession.—Gifted by nature, with talents peculiarly calculated for the exercise of the important duties of a surgeon, his education, in an especial manner, enabled him to attain the highest reputation. The only production of Dr. M'Knight which is published, is an interesting account of a Case of Extra-uterine Fœtus, in the Memoirs of the Medical Society of London, vol. iv.

REVIEW.

Art. I. *A* View *of the* Diseases *most prevalent in the* United States of America, *at different seasons of the year; with an Account of the most improved method of treating them. Being an Abstract, not only of the Editor's own experience, but of the experience of several Physicians of distinguished abilities residing in the different States; including the substance of all the latest and most important improvements that have been made in the treatment of similar diseases in other countries. Collected and arranged by* William Currie, *Fellow of the College of Physicians of Philadelphia, Member of the American Philosophical Society, Physician to the Magdalen Asylum, &c.* Philadelphia, J. and A. Y. Humphreys. 8vo. pp. 240. 1811.

This comprehensive title page sufficiently explains the nature and objects of the work now before us, and had the several subjects which it embraces, been executed in an equally satisfactory manner, a most important service would have been rendered the profession. But to have expected the completion of so great a work, from the exertions of a single individual, could not but be attended with some disappointment, and accordingly, though we see room for improvement in the present volume, we are far more disposed to be contented with what the author has already done, than to enter into an examination of the imperfections that might be pointed out.

Dr. Currie was, indeed, well qualified for the task he has undertaken, having been a distinguished practitioner in this, his native country, upwards of thirty years. The frequent opportunities which he thus enjoyed, among different descriptions of persons, of observing the various character of disease, and the relative success of different methods of treatment; of comparing the results of his own experience with those of his fellow practitioners; have justly led him to believe, that a publication of the information derived from such sources, would be acceptable to physicians in general, and to the junior and less experienced members of the profession in particular, and especially to those who are precluded from ready access to public libraries.

" I have been induced by these considerations," says Dr. Currie, in his prefatory remarks, " to publish the following abstract of the information which I have acquired relative to the history and treatment of the diseases that are most prevalent in this country at different seasons of the year, together with the substance of all the latest and most important improvements that have been made in the treatment of similar disorders in other countries. And as I can, with truth, assure the reader, that I have neither proposed nor directed any remedy or method of treatment, that has not been repeatedly confirmed by my own experience, or by the experience of those 'who make truth their aim, the public good their end,' I can recommend the adoption of a similar method of treatment to others from a conviction that they will find it, as I have done, more efficacious than any other method that has hitherto been made public." p. 6.

In a suitable introduction, Dr. C. enumerates the diseases of most frequent occurrence in the United States, and as he adopts the systematic arrangement of Dr. Cullen, first treats of intermittent fever. On this subject, he has added an interesting body of facts relative to the effects of certain preparations of arsenic in this disease, a part of which was communicated to the editors, and appeared in a former number of this work.* He next treats of the autumnal remittent or bilious fever, after which a subject of far greater importance, and one which has been long agitated, is taken into consideration, we mean the yellow fever, denominated in the several performances of Dr. Currie, the synochus icteroides. This division of the work is executed with superior ability. The author has had very many opportunities of seeing the disease during the several times it has appeared as an epidemic in Philadelphia and in other places, and from the constant habit which he pursued, of daily noticing the various phenomena which accompany this disorder, has been liberally supplied with facts, valuable for the important principles they establish, and the practical conclusions that may be deduced therefrom. These facts are communicated in a perspicuous and energetic style, and are directly in support of the foreign origin and contagious nature of the yellow fever.

In the treatment of this disease, the practical cautions of Dr. Currie, with respect to venesection, deserve to be regarded. The same may be said of his remarks on cathartic medicines, and of the several means employed to mitigate or remove the distressing affection of the stomach, which is always more or less the attendant on yellow fever. In cases of black vomiting, nothing so frequently has relieved this dreadful symptom, as a mixture of equal parts of lime water and new milk. This fact, of so much practical importance, is fully substantiated by the experience of Drs. Currie, Vaughan, and Bard, and by that of Dr. David Hosack, by whom this remedy was first employed for this purpose.

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* Register, for July, 1811, p. 26.

Dr. Currie next enters upon the consideration of those diseases which belong to the order phlegmasiæ, and first treats of phrenitis. The next disease in his arrangement is hydrocephalitis, or hydrocephalus internus. Dr. C. adopts the former name, because, in his opinion, it conveys a more correct idea of the nature of the disease, while it retains its original nature, form, and character.—After an ample description of hydrocephalitis, and an enumeration of its principal causes, follows the method of treatment recommended by our author. The means to arrest the progress of this disease, it is justly remarked, ought assiduously to be had recourse to in its early stage. According to Dr. C. one of the temporal arteries should be opened, or if this operation should not be submitted to, blood should be drawn from the arm till symptoms of fainting be induced. Calomel should then be administered, so as to relieve the bowels, and when this effect is produced, if symptoms of fever and congestion still exist, the bleeding must be immediately repeated ; a large blister applied over the whole head, and one to both wrists or ankles ; if stupor has increased, sinapisms to the feet and the calomel must be renewed as at first. In certain cases, as pointed out by Dr. C. cupping glasses or leeches may be substituted. When, however, a change in the character of the disease is induced, and a dropsy in the ventricles has taken place, a corresponding change in the nature and form of the remedies is to be made. From the preceding congested and distended state of the arteries, a greater quantity of watery fluid escapes into the ventricles than the absorbents are capable of taking up: from which cause arise the symptoms characteristic of this stage of the complaint. Fresh blisters are now to be applied to the head and limbs, unless those which had been applied in the former stage, still continue to be considerably inflamed. The antiphlogistic regimen, though not with the same strictness, is also to be continued. Digitalis is to be administered at stated intervals, and small doses of calomel given, and continued until a swelling of the gums and soreness of the inside of the cheeks, or a salivation makes its appearance, or some other symptoms indicate the operation of mercury upon the system. Dr. C. remarks,

> "Mercury should never be given in large quantities or at short intervals in this disease, as for want of observing this precaution, I have known it, instead of occasioning salivation, to bring on an inflammation of one of the cheeks, or of the jaw of one side of the face, which in spite of all the usual preventives, ended in a mortification, which either speedily deprived the patient of his life, or if he recovered, left him a deformed and shocking spectacle the remainder of his days." p. 99.

Little is said either of the nature or treatment of cynanche tonsillaris; of the next disease, however, which is noticed, cynanche trachealis, generally known in this country by the name of hives, we are presented with an excellent description of its symptoms, of the causes by which it is produced, and with some practical observations on its peculiar nature. The method of cure laid down by Dr. C. chiefly comprehends copious and repeated bleeding, followed by active emetics and blisters, these to be succeeded by small doses of calomel. In the more advanced stage of the complaint, recourse is to be had to the rad. polyg. seneka, as a remedy of superior efficacy, and as an useful auxiliary to the mercury:

"but from its irritating quality and effect in exciting cough, it is highly improper to administer it in the early or inflammatory period of the disease, as it increases the flow of blood to the inflamed trachea." Dr. C.'s observations on this remedy, are certainly very judicious, and, with one exception to the method of cure, enforced by him, we give our fullest consent. The copious and repeated use of blood letting, first employed by Dr. Bayley of this city, though sanctioned by the experience of several eminent writers beside Dr. C. does not appear to be necessary in the treatment of this disease, and many cases have come to our knowledge were this practice has been attended with serious evils to the constitution. Let more dependance be placed on the liberal employment of emetics and calomel, less upon bleeding ad deliquium, and we confidently believe, that the pernicious effects arising from the present method of cure in this disease will, comparatively speaking, be rarely met with. We cannot, however, but consider this portion of Dr. Currie's work as worthy of particular notice, and recommend it as deserving of general attention.

The diseases next in order noticed by Dr. Currie, are peripneumony, pleurisy, pneumonia notha, gastritis, enteritis, hepatitis, rheumatism, gout, erysipelas, epistaxis, hæmoptysis, phthisis pulmonalis, catarrh, influenza, dysentery, and cholera infantum. Of these diseases, those treated of at greatest length, are phthisis pulmonalis, influenza, dysentery, and cholera infantum. The section on consumption, in addition to the author's own experience, is enriched with much practical matter from several of the latest authors on that subject. Under the head of influenza, we are furnished with a brief but interesting notice of the disease as it has prevailed in different districts of country, and at different periods; besides, an account of the disorder as it appeared in Philadelphia, in the summer of 1807, a year remarkable for the general prevalence of this disease. The symptoms and causes of dysentery are so well known, as to render it altogether useless to enter into any details of this kind, on the present occasion. As there is, however, a remarkable diversity of opinion with regard to the best method of treating the complaint, we insert the method pursued by Dr. C. as given in his own words.

"Not trusting to the fallacious indications afforded by the symptoms, I shall offer the result of my own experience, and the observations of those who have been most conversant with this disease.

For the purpose of proceeding with regularity, I shall distinguish the dysentery into three states, viz.

1st. When the disease is recent, and the sick can easily bear evacuations.

2d. When the disease is accompanied with violent and distressing symptoms, or has continued long, and has greatly impaired the strength, inflamed the intestines, and brought on a hectic fever; and,

3d. When the patient is prevented from recovering by the continuance of a tenesmus, or some other remains of the disease, or becomes subject to frequent returns of a diarrhœa, from the weakness and morbid sensibility of his bowels.

As there is always more or less inflammation of the mucous membrane or villous coat of the intestines in the early or recent state of this disease, similar to that which occurs in the bronchia in catarrh, blood-letting, in the generality of cases, is an indispensable remedy. In regulating the quantity and repetition of this remedy, however, the pulse, as in cases of enteritis, is a very uncertain guide; for in both diseases it is generally small and low; and when sickness at stomach accompanies the disease, it generally appears soft and weak also. But very acute, and frequent griping and pain in the abdomen, previous to and during every evacuation, accompanied with painful tenesmus, are signals for the employment and repetition of this remedy. While these continue with severity, blood-letting should be repeated to the quantity of ten or twelve ounces, and in cases of greater violence, in much larger quantity once in six or eight hours, till a manifest abatement of the local pain and distress is procured.

In conjunction with blood-letting, a full dose of any of the common purging salts, with the addition of one fourth or one half of a grain of tartarized antimony, should be administered soon after the first bleeding, and the fourth of a full dose every four hours after, with the addition of a fourth or sixth part of a grain of emetic tartar to each dose, till the fixed pain is removed, and more copious and natural stools are procured.

Fomentations of warm water to the abdomen and legs also contribute to mitigate the pain and fever in the early stage of the disease. Where they fail, and especially if the blood drawn on the second or third time of bleeding shows a sizy surface, or firm cohesion of the crassamentum, a large blister applied to the abdomen, and one to the inside of each leg, seldom fail of affording the most sensible relief—and more especially if preceded by topical bleeding, by means of leeches or cupping glasses. To prevent a return of those symptoms, however, free evacuations must be continued daily from the bowels by means of mild purgatives, particularly by castor oil given in half-ounce doses once in three or four hours, mixed with any thing agreeable, that is of a mild nature, the patient making use of acidulated drinks and the antiphlogistic regimen at the same time, and carefully abstaining from opiates till the acuteness of the griping and inflammatory symptoms have been completely subdued; after which, if the tenesmus continues (which in consequence of the abrasion of the rectum is generally the case) opiates are not only safe but highly beneficial, and particularly when administered in mucilaginous injections.

When the disease does not yield to these remedies, but the griping and tenesmus continue stationary, or return soon after they have been considerably mitigated, there is reason to suppose they are occasioned by the retention of scybala or indurated excrements in the colon. In such cases the remedy in which Sir John Pringle placed most reliance, was five grains of calomel combined with thirty grains of rhubarb, which in ordinary constitutions he says, is a moderate, or rather, a small dose. This combination, he adds, renders the rhubarb milder in its operation, (p. 263—edition 7th.) This is confirmed by Dr. Richter in his Medical and Chirurgical Observations, published at Goettingen in 1793, who affirms that no purgative operates so powerfully and at the same time so gently, as calomel. In such circumstances, I have frequently prescribed six grains of calomel and two of opium at bed time, with the most decided success. The opium lulling the pain, while the calomel usually occasions a free evacuation next morning.

Clysters of linseed tea, a solution of gum in water, thin starch and olive oil, are generally employed for the purpose of mitigating pain; but as long as the inflammation of the intestines continues, they generally add to the torment, unless when administered cool—and when the tenesmus is urgent, I have generally found them come away immediately, and this distressing symptom increased by the attempt to administer them, owing to the irritation which they occasion, even in the smallest quantity.

Under these circumstances, therefore, and especially in the second stage when the strength daily declines and the fever continues with dry skin, parched tongue, and frequent ineffectual efforts to evacuate the fæces, several of the most experienced writers recommend purgatives, combined with opiates, and of these Dr. Clark, in his Observations on Diseases of Long Voyages, gives the preference to a combination of calomel and opium, in the proportion of from three to five grains of the former to two of the latter, which he directs to be taken every four hours till they occasion a slight salivation or tenderness of the gums. As soon as this is obtained, he asserts that the griping and tenesmus both subside; and observes, that from twenty to thirty grains given in this manner, generally have a sensible effect on the mouth, though he has sometimes met with cases which required more than a drachm. When this remedy does not also operate as a cathartic, he interposes a saline purgative occasionally to carry off the indurated acid corrupt humours from the intestines. It is true, Dr. Clark employed calomel and opium in every stage and under all circumstances of the disease, but the event of several of the cases which he has recorded, by no means confirms the propriety of this indiscriminate and empirical practice. The cases recorded by Drs. Yates and M'Lean, in a publication entitled the Science of Life, afford ample proof that so long as the acute pain and fever denote the presence of inflammation of the mucous membrane of the intestines, the free use of mercury combined with opium is highly pernicious." p. 213—216.

"Many physicians in this country employ mercury in small and repeated doses, in the early stage of violent cases of the dysentery, for the purpose of inducing salivation. In this way I have seldom observed it to succeed, but on the contrary have several times seen fatal effects result from this practice. This might be expected from the almost invariable effects produced by mercury. In the interval between its first administration and its affecting the gums, its stimulating power is felt in a quickened circulation, and often in feverish heats. Hence in the early and inflammatory stage of dysentery, calomel ought never to be employed for the purpose of salivating—but in protracted cases, when the local and general excitement are moderate, its stimulating effects may be in a great measure counteracted by the effects of opium; and when in such circumstances it is pushed so far as to affect the gums, the disease of the bowels is generally suspended.

In some cases, ulceration of the tonsils has been occasioned by mercury, which has terminated in sphacelus and a speedy death; in others, the tormina of the bowels have been rendered insupportable, and the inflammation converted into sphacelus.—But, according to my experience in protracted cases, the practice of giving small doses of calomel and opium in conjunction, every three or four hours, till its effects on the mouth are evident, is not only safe, but frequently successful. The best anodyne is a combination of from half a grain to two grains and a half of opium, with from twenty to thirty of Dover's powder, or the compound powder of ipecacuanha, followed by a cup of warm tea, made of hyson, chamomile, or sage, every half hour for three hours, or till a copious perspiration follows. Calomel, given in this manner, operates as a mild and effectual laxative; while the opium combined with the ipecacuanha or neutral salt, not only eases the pain but promotes perspiration, and thereby acts in reducing the inflammation of the internal surface of the intestines, on which I believe all the symptoms depend.

A flannel roller or bandage round the abdomen, has lately been highly recommended by several physicians who have practised in hot climates in every stage of the dysentery, particularly by Drs. White and Dewar.

In the East Indies, Dr. Wade gave a dose of calomel every night, and a saline purgative the following morning, till the disease gave way, and assures us that this treatment generally succeeded.

When the dysentery continues till the strength is much impaired and the pulse sinks while the hectic heats continue, great danger is to be apprehended; but so long as there are neither involuntary stools, nor apthæ, nor hiccup, the case is not entirely hopeless. Under these circumstances, decoctions of cortex and serpentaria, or of columbo root, with from five to fifteen drops of laudanum, more or less, according to the degree of violence of the griping and pain, in a draught of cretaceous julep once in three or four hours, with vinous and cordial aliment, in a liquid form, and particularly wine whey, are the articles from whence most benefit has been obtained.

But when the patient has involuntary stools, apthæ and hiccup, accompanied with great prostration of strength and oppression at the præcordia, the case is desperate, and scarcely admits of palliatives.

In the chronic state of the dysentery, dependance is to be placed upon an alterative course of mercury guarded from occasioning debilitating evacuations, the frequent use of the hot bath, a flannel under dress, and a tight flannel roller round the bowels; or when that does not succeed, a successive application of epispastics to the abdomen, with tonic infusions, or absorbent mixtures, rendered agreeable by cinnamon or nutmeg water, and five or six drops of laudanum once in four hours, continued day and night, and a diet composed chiefly of light animal substances in the form of jellies, broths, or infusion; rice water, arrow root boiled to a thin jelly, and rendered cordial with wine and nutmeg, or brandy and nutmeg; milk with the addition of a small portion of lime water, or with chalk, gum arabic, and a little cinnamon, mace, or pimento boiled in it.

The following infusion is one of the best tonics and astringents for the diarrhœa, which sometimes succeeds the dysentery, viz.

Take Rad. columb. in pulvere crasso, half oz.
Pulv. gallæ. alep. sem. cardamom. ana, two drachms.
Spir. vin. com. (proof brandy) lbj.

To remain some days in infusion—then to be strained, and from two tea-spoonfuls to a table spoonful, to be taken diluted with water, three or four times a day." p. 219—221.

The limits of our review prevent us from entering into a consideration of the important subject with which the volume before us is concluded: we, therefore, refer the reader to the work itself, for the author's excellent view of cholera infantum, and of cholera in its protracted state; diseases which, according to their mortality in Philadelphia, New-York, Baltimore, and Charleston, are confidently stated by our author to destroy more children "than all the other diseases to which they are subject in this variable and unsteady climate."

ART. II. *A Treatise on a Malignant Epidemic commonly called* SPOTTED FEVER; *interspersed with remarks on Fever in general, &c. and an Appendix, in which is republished a number of Essays, written by different authors, on this Epidemic, with the addition of original notes: containing also a few original and selected cases with clinical remarks. By* ELISHA NORTH. New-York, T. and J. Swords. 12mo. pp. 249. 1811.

THIS is a very respectable work, and by far the largest that has yet been published on the spotted fever. The author appears to have been very diligent in collecting his materials, has evinced considerable discrimination in the selection, and has put together a body of information, which, independent of its present usefulness, well deserves a place in a permanent book of reference. But to the merits of a judicious compiler, Dr. North justly lays claim to the character of an original observer, and the facts and observations which he himself has related of this disease, which still prevails in different parts of the eastern states, are among the most valuable portions of his interesting book.

ART. III. *Collections of the* NEW-YORK HISTORICAL SOCIETY, *for the year* 1809. New-York. I. Riley. 1811. vol. 1. 8vo. pp. 428.

To offer any general remarks upon the utility of historical knowledge, or to descant upon the numerous advantages which will result to our country from the publication of a work of the nature of that before us, were alike superfluous. The former of these points has long since been agreed to, by the experience of the most enlightened nations; and, with regard to the latter, the honourable example of the historical society of Massachusetts may be mentioned, as affording the most satisfactory evidence. The society of Massachusetts was established in 1791, and through the spirited exertions of its members, has already completed the publication of ten volumes, which contain much interesting information relative to the history of the United States, and particularly of that portion commonly called New-England. These laudable and successful efforts of our eastern brethren, have encouraged a number of gentlemen, in a different district of the union, to organize a similar institution. An association for this purpose was accordingly formed in this city in 1804, and an act of incorporation granted by the state, for the " New-York Historical Society;" the object of which, it is stated in the charter, shall be to discover and preserve whatever may relate to the natural, civil, literary, and ecclesiastical history of the United States, and of this state in particular. Since that late period, the society have issued this, the first volume of their collections.

The present work, as might easily have been anticipated from its very nature, is to be regarded chiefly as a compilation; but it is a compilation which includes a variety of curious and important information. The introductory part, besides the preface, contains the constitution of the society, its by-laws, an address to the public, in which are set forth, with minuteness and perspicuity, the particular objects of the institution, and the act of its incorporation. The next portion commences with a discourse, in commemoration of the discovery of New-York by Henry Hudson. This discourse was delivered before the society by the Rev. Dr. Samuel Miller, on the 4th of September, 1809, being the completion of the second century since that event. The author, besides presenting an account of the labours of the enterprising Hudson, as far as they were connected with the particular object he had in view, has given additional interest to his performance, by the facts and observations he has offered concerning the journal of Verrazzano. How far Verrazzano may be justly considered the discoverer of the harbour of New-York, Dr. Miller does not absolutely undertake to say, but appears to coincide in opinion with Dr. Belknap, that his description must have applied to that place. The original Journal of Verrazzano, as written in 1524, and published in the second volume of Hakluyt, is very properly inserted in these collections, in order that the reader who takes an interest in the inquiry may examine and judge for himself. It is impossible for us to investigate this subject on the present occasion, and we think it proper to withhold our opinion. Of the discourse itself, however, as a species of composition, we do not hesitate to pronounce it an excellent model of historical narrative; that in its contents it is extremely interesting; and that it will be found in every respect worthy of the high reputation and acknowledged abilities of the author. Two instructive letters from Dr. Mitchill, in the form of an appendix to the preceding discourse, are next given. They happily illustrate certain facts contained in the Journal of Hudson.

The whole remaining part of the volume, comprising nearly four hundred pages, is occupied by documents taken from the very rare and valuable works of Purchas, Hakluyt, Hazard, &c. They are for the most part arranged in chronological order, and very properly printed *literally*, and in the quaint style in which they were originally composed. From their nature it is impossible to give an abstract of them : they will be read by the admirers of "olden times," and justly estimated by the American historian. The following is an enumeration of their general heads :

The relation of John De Verrazzano, of the land by him discovered, in the name of his majestie, Francis the First, anno 1524. The voyage of Henry Hudson towards the north pole, anno 1607. A second voyage of Henry Hudson, for finding a passage to the East-Indies by the north east, anno 1608. The third voyage of Henry Hudson towards Nova Zembla, &c. and along the coast to forty-two and a half degrees, and up the river (the Hudson) to forty-two degrees, anno 1609. An abstract of the Journal of Henry Hudson, for the discovery of the north-west passage, begun in April, in the year 1610, and ending with his death. Documents, extracted from the second volume of Hazard's Collection. Laws established by James, Duke of York, for the government of New-York, in the year 1664. We shall close our notice of the present work with some extracts from the preface.

"The first navigators who directed their course across the Atlantic, were incited by curiosity to remark, and by the hope of renown to record, every circumstance and incident attending their first visit to the unknown coasts, and unexplored bays and rivers of America.

"On their return to the countries from which they had sailed, their journals were sought for with eagerness, and the press was employed to preserve and diffuse the account of their discoveries. The journal of Henry Hudson, "who in the first ship, broke the unknown wave" of our wide circling bay and majestic river, has in this manner been fortunately preserved; and although not so minutely descriptive as our curiosity leads us to expect, yet is nevertheless sufficiently interesting to attract our attention, and certainly deserves to be perpetuated. The collection of voyages by Purchas, published in the year 1625, and which is still extant, contains this journal; but as these volumes are very rare, and as the surest way to preserve a record is to multiply copies, the present opportunity is taken to exhibit it to the public in a new form, more convenient than the original edition.

"As nothing appears to be known of the life and character of Hudson, but what is to be found in the history of his voyages, it cannot prove uninteresting to those who inhabit the borders of the noble river which bears his name, to read the brief memorials which remain of the enterprising spirit of this distinguished navigator, and of the calamities which terminated his adventurous career. With this view, the journals of his two last voyages, previous to his discovery of New-York, and of his last expedition, in which he fell a victim to the disaffection and barbarity of his crew, are allotted a conspicuous place in the present collection."

" The circumstances attending the first settlement of the United States, are, with some exceptions, as correctly to be ascertained as those of the original discovery. The leaders of the first adventurers who emigrated to these shores, being men of intelligence and foresight, and contemplating not merely a temporary refuge, but the establishment of permanent colonies or states; were desirous of transmitting to their successors, and to posterity, some memorial of their civil transactions. In most of the principal states, such records are to be found, and furnish the historian with much minute and local information. It is to be regretted, however, that with respect to New-York, from its first settlement by the Dutch in 1614 until 1636, there are scarcely any records remaining relative to the public affairs of the community. The English settlers on Connecticut river, were regarded, it appears, by the Dutch, as encroaching upon their territory, and in the year 1638 a prohibition was issued by William Kieft, the second Dutch governor, forbidding the English to trade at the Dutch posts established on that river. This, it seems, gave rise to a sharp controversy; and the publication of the documents, commencing with the protest of Kieft, and concluding with the articles of agreement relative to the partition line, will not, probably, prove unacceptable to the curious mind."

" In a few years afterwards, however, the Dutch ceased to be a party in this contention, being compelled by conquest to resign their territory to the dominion of Great Britain. A new system of government was then introduced by the authority of the Duke of York, to whom King Charles II. had made a grant of the colony, and a new body of laws was thereupon compiled under the direction of Nicolls, the first English governor. This code, it appears, was promulgated in every county, under the name of the "Duke's Laws," a copy of which, transcribed from the records of Hempstead, on Long-Island, will be found at the close of the present publication. These laws continued in force till the period of the revolution in England, and ceased to have effect in the year 1691, when the general assembly of the province began to exercise a new legislative power under the sovereignty of King William."

DOMESTIC INTELLIGENCE.

Extract of a letter from John Ferriar, M. D. &c. of Manchester, addressed to David Hosack, M. D. of New-York, dated Manchester, Nov. 20, 1811.

" SIR,

" I beg leave to return you my best thanks for the interesting publications with which you have favoured me. They are particularly acceptable, because they show that the fatal delusions respecting the causes of the yellow fever are at length removed; and that rational precautions against its recurrence may now be expected, in place of that wild sciolism, which had grieved and astonished European practitioners. It has always been my opinion, since I perused the reports of the Philadelphia committee, that the whole evils of the epidemic might have been averted, by the establishment of permanent fever-wards, in the principal seaports of America. I sent a letter on this subject, several years ago, to a friend, who at that time, (I think in 1798) resided in Philadelphia, mentioning our success in this place, in checking the prevalence of typhus, by means of our fever-wards, and proposing a similar institution at Philadelphia."

" I take this opportunity of sending you an account of our proceedings here, on the plan of counteracting contagion, and I beg leave to recommend the institution of a permanent fever-ward at New-York to your attention. It is, at once, the most useful and the most popular of medical charities. You will see that we have determined the question respecting the limits of contagion, and have proved that the true specific against its action is *dilution with atmospheric air*."

" The observations on diabetes, which you will find in my first volume, have been confirmed by several other recent cases.

I am sir, your much obliged,
And very obedient servant,
J. FERRIAR."

Extract of a letter from Samuel Brown, M. D. &c. to David Hosack, dated New-Orleans, Oct. 15, 1807.

" You have no doubt seen the remarks of my learned friend, Mr. William Dunbar, of Natchez, upon the existence of vegetables and animals in the Ouachita Hot Springs, which I believe are of the temperature of boiling water. This is an extraordinary fact in vegetable physiology. I myself witnessed the counterpart of it some years ago in Lexington, (K.) The grains of wheat which were in the straws employed to cover a solid mass of ice in an ice-house, vegetated, and the solid transparent ice was penetrated to the depth of nine or ten inches, by innumerable fibres of the roots, which had *thawed* for themselves openings somewhat larger than the diameter of the fibres. The vital principle in vegetables as well as in animals, possesses the power of resisting, to a certain extent, the destructive influence of both heat and cold.

With great regard,
I am yours,
SAMUEL BROWN."

Canal Navigation.

We have already published the resolutions of the Legislature of New-York, relative to the contemplated canal between Lake Erie and the Hudson River, and the very interesting and satisfactory Report on the subject, drawn up by the committee appointed in behalf of the state.* With the view of completing all the official documents that may be presented to the public, we give place to the following Memorial, presented by the commissioners in behalf of this state, and referred to a committee of nineteen members:

To the honourable the Senate and House of Representatives of the United States, in Congress.

The undersigned, commissioners of the state of New-York, respectfully represent, that by a law of which they have taken the liberty to transmit an exemplified copy to the president, they are, among other things, directed to make application to the Congress of the United States for their co-operation and aid in making a canal navigation between the great lakes and Hudson's river, which, in the opinion of the legislature of New-York, will encourage agriculture, promote commerce and manufactures, facilitate a free and general intercourse between different parts of the United States, tend to the aggrandizement and prosperity of the country, and consolidate and strengthen the union.

To these powerful incentives we feel it a duty to add our conviction, that, in a fixed point of view, this object is not unworthy of public regard; seeing that by a good navigation from the lakes to the ocean, and by that alone, the speedy sale of, and payment for many millions of acres of public lands can be effected.

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* See Register, vol. 1. p. 110, and vol. 1. p. 491.

We might add other considerations; but as doubts may, in course of the business, arise, and explanations be required, we have deemed it advisable to depute two of four members, De Witt Clinton and Gouverneur Morris, to be bearers of this application to the seat of government, with instructions to enter, from time to time, into all needful expositions.

We crave on the part of the state of New-York the credence and favourable notice of their representations.

And as in duty bound shall ever pray.

GOUVERNEUR MORRIS.
DE WITT CLINTON.
SIMEON DE WITT.
W. NORTH.
THOMAS EDDY.
ROBERT R. LIVINGSTON.
ROBERT FULTON.
PETER B. PORTER.

Message of the President of the United States to the Senate and House of Representatives.

I communicate to congress copies of an act of the legislature of New-York, relating to a canal from the Great Lakes to Hudson's river. In making the communication I consult the respect due to that state, in whose behalf the commissioners, appointed by the act, have placed it in my hands for the purpose.

The utility of canal navigation is universally admitted. It is not less certain that scarcely any country offers m re extensive opportunities for that branch of improvement than the United States; and none, perhaps, inducements equally persuasive, to make the most of them. The particular undertaking contemplated by the state of New-York, which marks an honourable spirit of enterprise, and comprises objects of a national, as well as more limited importance, will recal the attention of congress to the signal advantages to be derived to the United States, from a general system of internal communication and conveyance; and suggests to their consideration whatever steps may be proper on their part towards its introduction and accomplishment. As some of those advantages have an intimate connection with arrangements and exertions for the general security, it is at a period calling for these that the merits of such a system will be seen in the strongest lights. JAMES MADISON.

Washington, Dec. 23, 1811.

Report of the Commissioners appointed to attend at the seat of the general government.

Your committee, appointed to attend at the seat of the general government, for the purpose of forwarding the memorial respecting the projected Canal, beg leave to Report:

That they proceeded to the seat of the general government, by the way of Lancaster, where they took measures to obtain the concurrence of the Legislature of Pennsylvania.

On the twenty-first of December, they waited on the president of the United States, and found him, although he expressed himself to be an enthusiast as to the advantage of interior navigation, by means of canals, embarrassed by scruples derived from his interpretation of the constitution. At the close of their visit, however, he was in a better disposition, which is evidenced by his message to congress, of the twenty-third December, a copy whereof is annexed. [*See the preceding message.*]

On the twenty-fourth they attended at the Treasury Office, and found the secretary desirous of performing this, and other works of a similar nature, conformably to the plan which he had reported at the precedent session.

He was of opinion that, under present circumstances, pecuniary aid would not be given; but that sufficient grants of land might be now made without inconvenience to the fiscal concerns of the union. And these grants be afterwards redeemed by cash, when the treasury should be in a more prosperous condition.

Your committee found an idea prevailing with some, and zealously inculcated on others, that it would be wise so to amend the constitution, as expressly to authorise the general government to incorporate banks and make roads and canals without consent of the states.

This suggestion arose, they believe, from a desire to resuscitate the national bank; it being presumable that gentlemen who had declared the old charter to have been unconstitutional, could not be prevailed on to grant a new one. It appeared, therefore, to your committee, that the proposed amendment being intended to get clear of the difficulty respecting the bank; other objects were introduced rather as a convenient cover than as needful concommitants.

Whatever may be the case with respect to banks, the proposed amendment, so far as regards roads and canals, appeared to your committee worse than useless; because the power to apply national treasure to such objects, with consent of the respective states, is unquestionable, and so far as relates to roads, has been sanctioned by frequent usage. On the subject of banks and roads, nevertheless, they did not find themselves called on to express their sentiments, but felt it a duty to declare, on all proper occasions, a decided opinion, that the states would not consent to vest in the national government a power to cut up their territory, for the purpose of digging canals.

Your committee found another idea operating with baleful effect, though seldom and cautiously expressed. The population and resources of the state of New-York, furnish no pleasant reflections to men, whose minds are imbued with state jealousy; and although the proposed canal must not only be of the highest importance to the western states, as well as to the states of Pennsylvania and Maryland, and greatly promote the prosperity of the whole union, it was obvious that an opinion of its superior benefit to this state was sedulously inculcated. An opinion which, there is reason to fear, will have but too much influence in every consideration of this subject.

Although the president's message, above mentioned, together with the petition of the board of commissioners, was immediately referred to a large committee; it was not until after a lapse of sixteen days, (viz. on the eight of January) that your committee was summoned to attend.

Marks of reluctance were perceptible, but in the close of the conference, a disposition to consider the subject more fully and more favourably prevailed; still, however, it was evident that the object of this state would not be separately attended to.

Your committee were desired to prepare a general system; and they had already learned in the course of their conversations with individuals, that unless something was done for many of the states, the consent of a majority of the house of representatives could not be obtained.

After the meeting just mentioned, your committee proceeded to the treasury office, conferred with the Secretary, and, conformably to his ideas, fixed on a tract of land, to be appropriated to the objects in contemplation. In the evening of the tenth, they again met the committee of congress, and submitted to their consideration the draft of a bill, embracing the principal objects contained in the Secretary's report, already referred to, of which bill a copy is annexed.

On the fifteenth of January, the committee of congress determined to report in favor of canals, and appointed a sub-committee to prepare that report. Thus the main difficulties seemed to be surmounted, and there was good ground to believe that, if the report should be brought speedily before the house of representatives, the assent of a majority would be obtained. But the sub-committee, for reasons which, though unknown, are presumed to have been weighty, delayed the report, notwithstanding the solicitations of one of your committee, who remained until the twenty-sixth, in the hope of being able to prevail on them to accelerate their movements, and not to adopt every amendment which might be proposed, in order to conciliate the opinion of the proposer; a dangerous course which frequently loads a reasonable system with so much objectionable matter as finally to sink it. Moreover, it was feared that the object might be lost by delay; for there might be some who, though they would not hazard reputation by voting against it, would gladly avail themselves of pretexts to postpone a decision till the session should be brought to a close.

Your committee have learnt, by letters from Washington, that the report of the sub-committee, after being canvassed in the general committee, received but four out of thirteen votes, and that another sub-committee was thereupon appointed, to state the reasons why it is thought improper for congress to act upon the subject of canals this session. Your committee will not attempt to imagine the motives for so great a change of conduct, if not of sentiment, in the gentlemen who composed the general committee. The board will judge on the face of facts above stated.

The importance of the object to the United States is too manifest to admit of question, and the offer of New-York too fair to admit of cavil. The reason assigned for withholding, not only an immediate advance, but even an eventual appropriation, viz. that the resources of the country may be required to support a war, although more plausible than solid, may be admitted as sufficient with many well meaning men.

But this reason does not apply to a conditional grant of land, which shall not take effect until the canal shall be completed. Such grant will not, it is presumed, be expressly denied, and the reasons to be assigned why it cannot be made now, will speak for themselves.

Your committee have learnt that some speak slightly of the canal, as a project too vast; while others are so weak as to question the ability of the state to bear the expense, as if an expense of five or even ten millions of dollars, payable in twenty years, would be a serious, much less oppressive effort for a million of men. Others again, who have too much understanding to doubt the resources of the state, and too much prudence to expose themselves to ridicule, by expressing such doubt, triumphantly declare, that her legislature has not the spirit and intelligence to draw out and apply her resources to that great object.

These men console themselves with a hope that the envied state of New-York will continue a supplicant for the favour, and dependent on the generosity of the union, instead of making a manly and dignified appeal to her own power.

It remains to be proved, whether they judge justly who judge so meanly of our councils.

All which is humbly submitted.

Extract of a letter from Colin Chisholm, M. D. F. R. S. &c. *addressed to Dr. Hosack : dated Clifton, August* 21, 1811.

I have read Dr. Smith's Essay on the varieties of the Human Species with great pleasure and satisfaction : indeed it is astonishing there should be controversy on this point, and if a few simple natural questions were put to the inquirer, by himself, before he draws a conclusion, I am persuaded his mind would readily enough perceive, that the unity of man is a truth unassailable. Thus, was man created ? By whom created ? Whence our knowledge of the fact ? Is the source of this knowledge certainly and indisputably authentic ? Are there proofs of its being derived from divine inspiration ? or is it human invention ? If we are satisfied that God himself has sanctioned the history of the fact, no doubt can remain, that

" God created *man* in his own image; in the image of God created he *him: male and female created he them.*" Therefore, the whole of the inquiry terminates in one proposition, one unalterable fact, one eternal truth, that all mankind, with all their varieties, have proceeded from one pair, a unity of genus and species; and that a plurality of species of mankind is false, a delusion offspringing from unfounded premises, fanciful analogy, and precipitate conclusions. It is, in short, a truth so obvious, as to be reducible to a logical syllogism, thus: the Bible is a book of divine authority, and declares the unity of genus and species of man as a created being; but the Bible is divinely true, therefore, the unity of man is certainly true. But, go further, examine the internal structure of man, inquire into his faculties; you will find in both proofs of the unity of genus and species; the former undeviatingly the same in all countries, and under all circumstances; the latter fundamentally the same also, and diversified only by culture. If we proceed in another course, make our criterion that principle which Ray, Buffon, and others have laid down, viz. the power of procreating an offspring that shall itself be endued with similar prolific powers; or that other, which Dr. Blumenbach hath resorted to, viz. animals ought to be ranked in the same species, when their general form and properties resemble one another, and the differences which subsist among them may be derived from some degenerating cause; the result will be the same. But, I conclude as I began, by asserting, that in an inquiry of this nature, human reason must be considered as proving nothing, unless it founds its arguments on established and authentic principles; the principle here, on which our conclusion should rest, is divine; therefore, we are to resort to it, and it only; and by it we know the unity of genus and species of man; and that plurality is a mere human doctrine without support, a cloud floating in the atmosphere, dissipated by the sunshine of divine authority. This is my creed with respect to the varieties of the human race, and it accords so much with Dr. Smith's, that in its great points, at least, no discrepancy exists. There are, however, some trifling differences, which, on another occasion, I may perhaps take leave to point out. At present I shall only mention what Dr. Smith says of the pigmies of Madagascar, p. 147. He takes for granted, that the whole history of this diminutive race is a mere fable, or if there is any truth in it, that it has been greatly exaggerated. I have no right to contradict this assertion, but until the following statement is disproved, I must withhold perfect assent to it. During a few months residence in the island of St. Croix, in 1796, I met at the house of one of my friends, a French gentleman of respectability, of Martinico, but last from the island of St. Thomas. From this gentleman, Mr. Baudin, I received the following very curious and interesting narrative. Mr. Baudin stated to me, that his brother, also a native of Martinico, who had been bred to science, and had made natural history and medicine his more immediate pursuit, was employed by the late emperor of Germany on a voyage which had, in part, for its object, the discovery of a singular race of men in the island of Madagascar, of small stature, or pigmies. He proceeded on this voyage, from the port of Trieste, in the year 1792 or 3. The interesting object of it was completely obtained, for Mr. Baudin received such information, and such assistance from the natives, as enabled him to penetrate into the interior parts of Madagascar, where the nation of these singular people was established. He resided fifty days among them, and gained their confidence so entirely, that one man, thirty-five years old, was induced to embark with him, and he was permitted to take away a child of a year old. Mr. Baudin gave the following particulars of the Kimos: They are never of larger stature, when fully grown, than from thirty-two to thirty-six inches; they are of a tawny, or very light copper colour; they are very active and intelligent, and use, as offensive weapons, the bow and arrow; they are remarkably well proportioned, and possess very handsome features, with long black hair; and the community Mr. Baudin resided among amounted to eight thousand; but the whole nation was very numerous. The man and child died some time after the ship left Madagascar; the body of the former was properly injected, and prepared by Mr. Baudin, and that of the latter preserved in spirits. These preparations, with other curious subjects of natural history, were sent to my informant by his brother, and, as a place of greater safety, he deposited the collection at Mr. Ekard's house in St. Thomas's. This narrative recalled to my memory some account I had read in the Critical Review, 1792, of the Abbi Rochon's voyage to Madagascar, in which a nation of pigmies is mentioned, as actually existing in that island: but to ascertain the point, I visited St. Thomas, in November 1796, when I found unfortunately that Mr. Baudin had gone to North America; but his friend, Mr. Fleicher, furnished me with the means of gratifying my curiosity. I was very particular in my measurement, in which the late Mr. John Ryan, of St. Croix, an excellent naturalist, assisted me, and found the dimensions as follows:—The whole length 32 inches; circumference of the cranium, 18 1-2 inches; from the coronal suture to the chin, 6 1-2 inches; nasal bones, 1 1-4 inch; length of thorax, 6 1-4 inches; of abdomen, 7 inches; femur, 6 1-2 inches; fibia, 6 1-2 inches; foot, 4 3-8 inches; humerus, 5 1-2 inches; fore arm, 5 inches; hand, to extremity of the index, 3 3-8 inches; teeth, dentes canini, 2; incisores, 4; molares, only 4 visible in each jaw, all fully formed, and beyond doubt adult. The preparation of the child measured one foot in length. I forbear to make any remarks, further than to say, that here the authority seemed respectable, there was no inducement to impose, the information came spontaneously, nor was there any theory to support; it appeared, in truth, a mere matter of fact, related by the brother of the person who had resided among the Kimos, and in whose possession specimens were preserved, which specimens I actually examined. Compare this with the account which M. Rochon has given, and principally from the information of M. De Modavi, the governor of Fort Dauphine, in 1769. This officer fully ascertained the existence of the Kimos as a nation, by sending detachments into the country for that purpose. He concludes with this remarkable observation, "that it is certainly nothing wonderful to meet with dwarfs in a country so vast and extensive as Madagascar, the surface of which contains various climates, and abounds with a multitude of different productions; *but a real race of pigmies living in society, is a phenomenon that cannot well be passed over in silence.*" As to the weight of evidence between this statement, and that which Dr. Smith quotes from the Baron de Clugny, I shall not presume to decide; it is indeed for the purpose of being enabled to decide with some degree of certainty, that I have enlarged so much more on the subject than I originally proposed. As M. Baudin returned to New-York, you may probably have heard of, or have known him, and where he at present resides; in either case, you may be enabled to obtain access to further and more circumstantial information on a point of physiology extremely useful and interesting. I am aware that in the only other account of Madagascar we have of a modern date, viz. Drury's narrative, no mention is made of the Kimos; and yet Flacient mentions them, although he disbelieves their existence. Flacient and Modavi were men in authority, governors of French settlements; Drury, a prisoner, and extremely ignorant.

New method of operating upon the Eye for Cataract: contained in a letter to Dr. Mitchell, from A. H. Stevens, M. D. dated London, January 3, 1812.

Another valuable work came out yesterday, *Saunder's on the Eye*, edited by Dr. Fare. Mr. S. has proposed to cure cataract, by an operation different from extraction or depression, to wit, scratching the capsule of the crystalline lens, in order to expose it to the dissolving and absorbing power of the aqueous humour, an effect which has been found to take place usually in about six weeks, more or less, according to the seat and structure of the cataract.

The operation is very simple; a needle smaller than Hey's, and flattened at the point, is plunged through the pupil, to the middle and anterior part of the crystalline, the external orifice being either just behind the transparent cornea, or through it. The latter mode is the most easy, and rather preferred by Mr. S. The capsule being torn a little, the needle is withdrawn, the whole operation being finished. Two operations are generally requisite to complete the cure. The chief accident liable to occur is, the protrusion of the lens against the iris, either during the operation, from too much pressure upon the eye, or subsequently, after a cure is partially effected, by a removal of some part of the circumference of the capsule, leaving the lens thus open to the power of the aqueous humour at these places, and consequently the remaining portion, after this is absorbed, without any thing to keep it from falling forward, to the injury of the delicate and important membrane I have mentioned.

Both these effects may be easily avoided, and this new operation has the merit of simplicity and safety. Mr. S. and Astley Cooper speak in the highest terms of its success. It has moreover this advantage, that it applies to those hitherto hopeless cases of congenital, and chiefly capsular cataract, which are so common.

Valuable additions to the New-York Hospital Library.

It is with peculiar satisfaction we announce, that the enlightened board of governors, who direct the concerns of the New-York Hospital, have lately made a large addition, of the most splendid and useful works on botanical science, to the already very extensive library belonging to that institution. By this public spirited act, so honourable to their intelligence, and calculated in its effects to be attended with so many advantages, they have given permanency to a collection of books, illustrative of one of the most important branches of natural knowledge. This collection, the result of many years exertions, was purchased from the late proprietor of the state botanic garden, and both as to the number and nature of the works which it contains, is superior to any other in this country.

Among the numerous productions of genius and learning which it contains are the following:

Flora Londinensis; Flora Piedemontana; Flora Danica; Flora Atlantica; the Floræ Americanæ of Jacquin, Wangenheim, of Michaux, of Catesby; English Botany of Smith; Botanical Magazine of Curtis; Historia Plantarum of J. Bauhin; Pinax Botanica of C. Bauhin; Flora Rossica of Pallas; Encyclopedie Methodique et Botanique of Lamarck; Institutiones rei Herbariæ of Tournefort; besides, the principal writings of L'Heritier, Smith, Haller, Sowerby, Thunbergh, Vahl, Dickson, Duhamel, Gmelin, Goertner, Berkenhout, Dillenius, Gilibert, Grew, Ludwig, Martyn, Murray, Necker, Swartz, Schreber, Sibthorp, Willdenow, Linnæus, &c. &c.

[In compliance with the request of the Students, a place is given to the following Address.]

At a meeting of the Students, who attended the several courses of Lectures in the College of Physicians and Surgeons of this city, held at the College Buildings, Pearl-street, on Saturday, the 29th of February, 1812, ISAAC ROOSEVELT, *in the Chair, and* CHARLES DRAKE, *Secretary—It was Unanimously Resolved, That the following Address of thanks to the Professors, for the ample and satisfactory courses of instruction, which they have just completed for the present session, be made public.*

GENTLEMEN,

Grateful for the excellent and extensive courses of medical instruction, delivered by you during the present session of the College, we should do injustice to our feelings, did we not now, that we are about to separate, thus publicly offer a testimony of our high sense of the numerous advantages we have derived from our connection with the institution to which you belong. From the

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[illegible] which [illegible]

[illegible] acknowledgment [illegible] Dr. Denni[illegible] the Theory and Practice of Phy[illegible] and Clinical Medicine, and of Midwifery, and the [illegible] of Women and Children. His amiable zeal;

his unremitted perseverance,* in rendering his important course as useful and instructive as possible; his happy facility in removing the veil of obscurity which so generally envelops the systems of medical writers; his assiduity in pointing out their excellencies as well as defects; his peculiarly successful manner of distinguishing diseases, and establishing the principles of practice, on the accurate observations of himself and others; the candour with which he made known to us the result of his own extensive experience; his forcible eloquence, arising from a conviction of their great importance, have left impressions on our minds which will never be erased.

To our learned and much respected Professor of Chemistry and Pharmacy, Dr. James M'Neven, we offer, with no less sincerity, our united thanks. While so happily illustrating the principles of chemical science, nothing was omitted which could be useful to his auditors; the test of experiment never failed to verify the correctness of his observations. His elaborate course was in an especial manner calculated for the medical student, and gave universal satisfaction; at the same time that it impressed upon our minds the importance and utility of the science of chemistry, as connected with the healing art.

Ever, gentlemen, shall we have reason to congratulate ourselves in having been the pupils of such able teachers, and we may proudly say that your endeavours to promote our knowledge in the various branches of the exalted science of medicine, have not failed of success. May every returning session enable you to employ your talents for the benefit of still increasing audiences, and your influence in disseminating medical knowledge, give additional lustre to your names, and to the institution with which you are so intimately connected.

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* Dr. Hosack has delivered, during the present session, upwards of one hundred lectures on the Theory and Practice of Physic and Clinical Medicine, exclusive of a separate course on Midwifery.

ISAAC ROOSEVELT, Chairman.
CHARLES DRAKE, Secretary.

New-York, March 4th, 1812.

Eau Medicinale.

A late London publication asserts, "that the gout medicine of Mr. Husson has been indisputably discovered by Mr. Moore, the surgeon. A bottle of the Eau Medicinale (he says) consists of a dram and a half of the wine of white hellebore, mixed with half a dram of vinous laudanum. Mr. Moore has clearly shewn that Mr. Husson took the idea from the elder Pliny; and the above composition has been found to have the taste, smell, and the precise effects, of the French medicine."

Dr. Eddy's Lectures on Botany.

Dr. C. W. Eddy, of this city, has announced his intention of delivering a course of Lectures on Botany, to commence on the first Wednesday in May next. The object of these lectures will be, to unfold the anatomy and functions of the vegetable body, to illustrate the principles upon which botanical science is founded, and to point out, as far as may be necessary, the peculiar excellencies and defects of the several systematic writers. Particular attention will be paid to the arrangement of vegetables, according to the artificial or sexual system of Linnæus, as improved by the latest botanists, and to the natural orders of Jussieu. During the whole course, the lecturer will avail himself of all the advantages calculated to render the instruction that may be given, a system of practical botany; and for this purpose, repeated visits will be made to the state botanic garden. The merits of Dr. Eddy, in this department of knowledge, are already too well known to be here mentioned. We shall only add, that a science in itself highly useful and agreeable, will possess additional claims to attention, when unfolded in the able manner now proposed.

Dr. Sanford's Preparations of the Bark.

In our present number, page 398, may be found a very interesting communication on the medical virtues of the Peruvian and other barks. It is with great satisfaction we state, that the author of that paper, Dr. Sanford, after more than twenty-five years observation on the effects of bark as a medicine, and no less than ten years attention to the different methods of preparing it, has at length formed an establishment, at Greenwich, (Con.) with the view of furnishing the profession with the several species of genuine Peruvian Bark, in the states of an essential salt, powder, &c. &c. On a circumstance of so great importance, we cannot but congratulate the community at large, upon whose confidence and support Dr. Sanford is justly entitled to the strongest claims.

Observations on the Weather of the City of New-York, for the months of January, February, and March, 1812.

JANUARY.

The weather of January was not particularly distinguished either for its mildness or severity, though there were often considerable variations in its temperature.

On the 9th it became overcast, and there fell a small quantity of snow; more snow fell on the 13th and on the 20th, in which interval the ordinary height of the thermometer was about 16 degrees. For the remaining days, the atmosphere was generally either cloudy or overcast, and sometimes very humid: height of the thermometer about 35, at 2 P. M. Wind S. W. or N. E.

FEBRUARY.

There were many days in February either cloudy, overcast, or rainy; and in the degrees of cold they differed but little from those of January. On the 8th, the mercury stood at 7 A. M. at 45, at 3 P. M. at 49, and at 7 P. M. at 46, the most moderate day in the month. We had light falls of snow, on the 12th, 16th, and 21st; and on the 23d, rain, with wind from the N. E. On the 27th the thermometer stood at 7 A. M. at 10, at 3 P. M. at 23, and at 7 P. M. at 24 degrees.

MARCH.

We experienced many overcast and rainy days in March, and many sudden and great changes in the temperature of the weather; the degree of cold generally about the freezing point. On the 14th, the thermometer stood at 7 A. M. at 31, at 3 P. M. at 32, and at 7 P. M. at 27, and nearly the same for several days subsequent. Wind N. and N. E. The latter part of the month it became much more pleasant, and the mercury, on the 27th, was as high as 63 at 3 P. M.

Observations on the Diseases of the City of New-York, during the months of January, February, and March, 1812.

The vicissitudes of the weather, during the above mentioned months, particularly in February and March, have been, as already noticed, unusually great and sudden.—In correspondence with these vicissitudes, have been the variety and character of the diseases which have prevailed during the same period: since the memorable epidemic yellow fever of 1798, our city has never exhibited so much sickness, nor have its diseases been attended with more violence and fatality. During this period, there is scarcely a disease, of an inflammatory nature, which has not prevailed to a great extent, and in most cases, been attended with an extraordinary degree of violence, and demanded the most active treatment.

Common *catarrh* was attended with so much inflammation and fever, that in some cases repeated blood letting and other powerful evacuations were absolutely necessary. In one case of pneumonic inflammation occurring in an infant six weeks old, after the use of emetics, purgatives, a blister to the chest, the warm bath, and antimonials had been employed in vain, it yielded only to two copious bleedings. We mention this case in particular, because we have remarked that practitioners do not appear to be sufficiently impressed with the importance and necessity of this remedy in the inflammatory diseases of infancy, of which pneumonia and croup are the most frequent in this country.

Inflammation of the throat, especially, when the physician was not called early, or venesection and other means were not freely employed in the commencement of the disease, has, in several cases, ended fatally by an effusion in the windpipe and bronchiæ, assuming all the characters of croup; in other cases it proved fatal by rapidly terminating in sphacelus.

Peripneumony, in like manner, when early and large evacuations had not been prescribed, soon ended in the typhoid type which that disease occasionally exhibits, especially when the practitioner may have been deceived by the insidious nature of its approach, and the want of those more urgent symptoms which usually attend pneumonic inflammation, and thence may have neglected the lancet and the use of those means which otherwise would have afforded immediate relief. This leads us also to remark, that we have, in many instances, employed blood-letting with the most happy effects, in many cases of incipient *phthisis* even where strong hereditary predisposition existed. Indeed, we are induced from some late observations on this subject, to express the opinion that in the commencement of phthisis as in peripneumony, blood-letting is not sufficiently employed, but is too frequently neneglected until the inflammation has so far extended that suppuration becomes inevitable. Nor do physicians in general, appear to have been sufficiently attentive in describing the symptoms characteristic of the first or inflammatory stage of phthisis, and consequently have been regardless of that active antiphlogistic treatment which alone can prevent the tuberculous or suppurative stage. Inasmuch as suppuration or a purulent secretion from the lungs necessarily implies preceding inflammation, we conceive too early attention cannot be given to the premonitory symptoms which announce the inflammatory stage, but which are frequently so inconsiderable, being seated in the less sensible, the cellular portion of the lungs, that both physician and patient are alike regardless of the present symptoms, and of the consequences to which they lead. Instead, therefore, of trusting to *syrups*, *anodynes*, *pectorals*, or *ptisans*, to allay the occasional dry hacking cough and pains of the chest, which indicate the first approach of the disease, we earnestly recommend the same active treatment, by *blood-letting*, blisters, and other means of diminishing excitement, as are employed in the treatment of a pleurisy, or any other acute inflammation; and we could add, in confirmation of our view of this subject, many recent cases, in which the practice here recommended has been attended with the most happy results.

In the last number, some remarks were made upon *angina pectoris ;* since that time, one of the cases referred to has terminated fatally. Upon examining the body after death, the pericardium was found to contain a considerable quantity of water ; the heart, loaded with fat; the vessels, especially the aorta and venæ cavæ, out of all proportion large when compared with the size of the heart, which was smaller than usual. No ossification was found, either of the valves of the heart, or of the coronary arteries. These facts are certainly in correspondence with the opinion we have already expressed upon this subject, that the disease arises from a plethoric state of the blood vessels. The large deposit of fat observed in this instance, as well as in other cases recorded, the effusion of water in the pericardium, the preternaturally distended state of the vessels themselves, are all favourable to this conclusion.—The parts preserved are in the possession of the writer.

OBITUARY.

DIED. At Kingston, (W. I) in July last, THOMAS DANCER, M. D author of the "Medical Assistant, or Jamaica Practice of Physic," and late Physician to the Bath, and Island Botanist.

At New-Orleans, on the 20th of October last, Don JOSEPH ROXAS, Professor of Mathematics in the Orleans College.

At Virginia, on the 6th of March, JAMES MADISON, LL. D. Bishop of the Episcopalian Church of that state, and President of William and Mary College.

At New-York, on the 17th of March, EDWARD MILLER, M. D. Resident Physician of the port of New-York, and one of the Editors of the Medical Repository. A biographical account of this distinguished physician, accompanied with an engraved portrait, shall appear in the Register.

RECENT AMERICAN PUBLICATIONS.

Report of the Commissioners appointed by an act of the Legislature of the State of New-York, entitled "An Act to provide for the improvement of the Internal Navigation of the State," passed April 8th, 1811, for the consideration of all matters relating to the said inland navigation. 8vo. Albany. Southwick.

The History of Ann Moore; with a statement of the evidence substantiating the facts of her long abstinence, who died at Tulbury, in Staffordshire, England, on the 20th of July, 1811. By J. E. White, Physician of Savannah, Georgia. 8vo. Savannah. Seymour and Williams.

Two Lectures on Comets, read in the chapel of Harvard College, Cambridge, New England, in April, 1759, on occasion of the Comet which appeared in that month. With an Appendix, concerning the revolutions of that Comet, and of some others. By John Winthrop, Esq. F. R. S. Hollisian Professor of the Mathematics and Natural Philosophy at Cambridge. 12mo. Boston. Waite and Co.

An Essay on Comets, in two parts. Part I. containing an attempt to explain the phenomena of the tails of Comets, and to account for their perpetual opposition to the sun, upon philosophic principles.—Part II. pointing out some important ends for which these tails were probably designed; wherein it is shewn, that, in consequence of these curious appendages, Comets may be inhabited worlds, and even comfortable habitations; notwithstanding the vast eccentricities of their orbits. The whole interspersed with observations and reflections on the sun and primary planets. By Andrew Oliver, Jun. Esq. 12mo. Boston. Waite and Co.

The History of Georgia, containing brief sketches of the most remarkable events up to the present day. By Capt. Hugh M'Call. 8vo vol. I. Savannah. Seymour and Williams.

ERRATUM.

In Dr. Hosack's Classification of Diseases, p. 266. for "Cynanche Pharyngea," read "Cynanche Parotidea."

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